

Key: 712

original: {'main-diagnosis': 'parkinson disease', 'differential_diagnosis': ['Vascular Parkinson's Syndrome', 'Progressive Supranuclear Palsy', 'parkinson disease']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 78-year-old male who has been experiencing progressive worsening of right-sided limb weakness for 5 years. The symptoms include heaviness and soreness in the right limb, difficulty in walking, slowness, and right-hand clumsiness. The patient has been treated with various medications, which have only slightly improved the symptoms. In the past six months, the patient's symptoms have progressed, and new symptoms such as difficulty turning over, decreased sense of smell, difficulty in defecation, frequent urination, sleep disturbances at night, and emotional irritability and anger have appeared. The patient has no history of chronic diseases. Physical examination shows no special findings in heart, lung, and abdomen examination. The patient is conscious, with a general response, indifferent expression, mask-like face, normal understanding and orientation, slightly unfluent speech, and cooperative during the examination. Laboratory and imaging examinations do not show any significant abnormalities. 2. ****Medical case Analysis**** The patient's symptoms, including right-sided limb weakness, difficulty in walking, slowness, and right-hand clumsiness, are indicative of a neurological disorder. The progression of these symptoms over time, despite medication, suggests a degenerative condition. The new symptoms that have appeared in the past six months, such as difficulty turning over, decreased sense of smell, difficulty in defecation, frequent urination, sleep disturbances at night, and emotional irritability and anger, further support this. The physical examination findings, including an indifferent expression, mask-like face, and slightly unfluent speech, are also indicative of a neurological disorder. The laboratory and imaging examinations do not show any significant abnormalities, which rules out conditions that would cause such abnormalities. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and the results of the physical examination, laboratory examination, and imaging examination, the two most likely diseases are 'Vascular Parkinson's Syndrome' and 'Parkinson's Disease'. 4. ****Select the best possible disease**** After rechecking the case, the best possible disease is 'Parkinson's Disease'. 5. ****Format the Disease**** = ****Best possible Disease****: Parkinson's Disease - ****Reasons****: 1. The patient's symptoms, including right-sided limb weakness, difficulty in walking, slowness, and right-hand clumsiness, are characteristic of Parkinson's Disease. 2. The progression of these symptoms over time, despite medication, is consistent with the degenerative nature of Parkinson's Disease. 3. The new symptoms that have appeared in the past six months, such as difficulty turning over, decreased sense of smell, difficulty in defecation, frequent urination, sleep disturbances at night, and emotional irritability and anger, are also indicative of Parkinson's Disease. 4. The physical examination findings, including an indifferent expression, mask-like face, and slightly unfluent speech, are also indicative of Parkinson's Disease. 5. The lack of significant abnormalities in the laboratory and imaging examinations rules out other conditions that would cause such abnormalities.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** The patient is an elderly male (78 years old) with a 5-year history of progressive worsening right-sided limb weakness, accompanied by heaviness, soreness, and clumsiness in the right lower limb. The symptoms have fluctuated over time, with slight improvements after treatment with Levodopa and Benserazide Tablets, Pramipexole Tablets, Amantadine, Selegiline, and Darling Compound. Recently, the patient has experienced difficulty turning over, decreased sense of smell, difficulty in defecation, frequent urination, sleep disturbances, emotional irritability, and anger. ****2. Medical case Analysis:**** ****Physical Examination:**** The patient's NIHSS score is 0 points, indicating no focal neurological deficits. However, the presence of bilateral nasolabial folds, mask-like face, and slightly unfluent speech suggests some degree of cognitive impairment. ****Laboratory Examination:**** Routine blood test results are within normal limits, with no significant abnormalities in electrolytes, liver function tests, or kidney function tests. Blood biochemistry test results show elevated creatine kinase (CK) levels, which may indicate muscle damage or neurological disorders. ****Imaging Examination:**** The plain magnetic resonance imaging scan shows no obvious focal signal abnormalities in the brain parenchyma, ventricles, midline structures, subtentorial structures, or pituitary gland. However, incidental findings of thickened mucous

membranes in the bilateral maxillary sinuses and ethmoid sinuses are noted. **3. Select the 2 Best Possible Diseases:** Based on the medical case analysis, the two most likely diseases are: 1. **Parkinson Disease (PD):** The patient's symptoms of progressive worsening right-sided limb weakness, heaviness, soreness, clumsiness, and difficulty turning over are consistent with PD. Additionally, the elevated CK levels may indicate muscle damage or neurological disorders associated with PD. 2. **Vascular Parkinson's Syndrome:** This condition is characterized by parkinsonian symptoms (e.g., tremors, rigidity, bradykinesia) in combination with vascular risk factors (e.g., hypertension). The patient's history of hypertension (BP: 145/80mmHg) and elevated CK levels may suggest a possible association with Vascular Parkinson's Syndrome. **4. Select the best possible disease:** After rechecking the case, I would select **Parkinson Disease (PD)** as the best possible disease. The patient's symptoms of progressive worsening right-sided limb weakness, heaviness, soreness, clumsiness, and difficulty turning over are more consistent with PD than Vascular Parkinson's Syndrome. **5. Format the Disease:** = **Best possible Disease:** Parkinson Disease - **Reasons:** * Progressive worsening right-sided limb weakness, heaviness, soreness, clumsiness, and difficulty turning over. * Elevated creatine kinase (CK) levels indicating muscle damage or neurological disorders associated with PD. * No obvious focal signal abnormalities in the brain parenchyma on imaging examination.

gemma2: ## Medical Case Analysis **1. Summary:** An elderly male (78 years old) presents with a progressive history of right-sided limb weakness, clumsiness, slowness of movement (bradykinesia), and difficulty walking for the past five years. His symptoms have worsened despite treatment with various medications including Levodopa, Benserazide, Pramipexole, Amantadine, Selegiline, and Darling Compound. He now experiences additional symptoms like difficulty turning over, decreased sense of smell, constipation, frequent urination, sleep disturbances, and emotional irritability. Physical examination reveals slightly increased muscle tone in the right limb and left lower limb, but no significant neurological deficits. Imaging studies show normal brain parenchyma, ventricles, midline structures, subtentorial structures, pituitary gland, and blood vessels. **2. Medical Case Analysis:** * **Physical Examination:** The patient's symptoms of progressive weakness, slowness, and clumsiness are suggestive of a movement disorder. The slightly increased muscle tone in specific limbs could indicate rigidity, another hallmark of Parkinsonian disorders. However, the absence of significant neurological deficits like tremors or gait disturbances makes it less likely to be classic Parkinson's disease. * **Laboratory Examination:** The blood tests are mostly within normal limits, with no significant abnormalities that point towards a specific diagnosis. * **Imaging Examination:** Normal brain MRI findings rule out structural lesions as the cause of his symptoms. However, the absence of characteristic changes in the substantia nigra (which is affected in Parkinson's disease) on imaging cannot be definitively assessed with a standard MRI. **3. Two Most Likely Diseases:** Based on the presented information, the two most likely diseases are: * **Vascular Parkinsonism Syndrome:** This condition arises from damage to blood vessels supplying the brain, leading to symptoms similar to Parkinson's disease. The patient's progressive worsening of symptoms over time and the presence of some motor features align with this diagnosis. * **Progressive Supranuclear Palsy (PSP):** This neurodegenerative disorder shares many symptoms with Parkinson's disease but often presents with early eye movement problems, difficulty with balance and falls, and a more pronounced tendency towards cognitive decline. The patient's history of emotional irritability and sleep disturbances could be suggestive of PSP. **4. Best Possible Disease:** = **Best possible Disease:** Vascular Parkinsonism Syndrome - **Reasons:** - The gradual onset and progression of symptoms over five years are consistent with vascular damage. - The patient's age (78) increases the risk for vascular disease. - While PSP can present with emotional changes, the lack of significant cognitive decline or prominent eye movement issues makes it less likely than Vascular Parkinsonism Syndrome in this case. **Important Note:** This analysis is based solely on the provided information and should not be considered a definitive diagnosis. A comprehensive clinical evaluation by a neurologist is essential for accurate diagnosis and treatment planning.

Key: 717

original: {'main-diagnosis': 'parkinson disease', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumor Stroke', 'parkinson disease']}

gpt-4: 1. **Summarize the medical case.** The patient is a 78-year-old female who has been experiencing slowness of movement and a dull facial expression for the past 2 years, which has worsened over the past 2 months. She also has difficulty turning over and sitting up, intermittent tremors in her right hand, unclear speech, dizziness, headache, and poor sleep. She has a history of cerebral infarction, anxiety, and depression. Her physical examination shows increased limb muscle tone, poor coordination, and dysarthria. Her laboratory tests are mostly normal, with a slightly elevated Erythrocyte Sedimentation Rate (ESR) and Mean Platelet Volume (MPV). Her MRI shows the disappearance of bilateral substantia nigra swallow tail sign, with reduced signal. 2. **Medical case Analysis** - **Physical examination**: The patient's symptoms of slowness of movement, dull facial expression, difficulty turning over and sitting up, intermittent tremors in her right hand, and increased limb muscle tone are indicative of a movement disorder, possibly Parkinson's disease. - **Laboratory examination**: The slightly elevated ESR and MPV could indicate inflammation or an immune response, but they are not specific to any of the diseases in the differential diagnosis. - **Imaging examination**: The disappearance of the bilateral substantia nigra swallow tail sign with reduced signal on MRI is a characteristic finding in Parkinson's disease. 3. **Select the 2 Best Possible Diseases** Based on the patient's symptoms, physical examination findings, and imaging results, the two most likely diseases are Parkinson's disease and Tumor Stroke. 4. **Select the best possible disease** After re-evaluating the case, the best possible disease is Parkinson's disease. 5. **Format the Disease** = **Best possible Disease**: Parkinson's disease - **Reasons**: 1. The patient's symptoms of slowness of movement, dull facial expression, difficulty turning over and sitting up, intermittent tremors in her right hand, and increased limb muscle tone are all characteristic of Parkinson's disease. 2. The patient's MRI shows the disappearance of the bilateral substantia nigra swallow tail sign with reduced signal, which is a characteristic finding in Parkinson's disease. 3. The patient's history of anxiety and depression could be related to Parkinson's disease, as these are common non-motor symptoms of the disease.

llama3.1: I'll follow the step-by-step approach to solve the medical case. **1. Summarize the medical case.** The patient is an elderly female (78 years old) with a 2-year history of slow movement, difficulty in turning over and sitting up, intermittent tremors in her right hand, dull facial expression, unclear speech, dizziness, headache, and poor sleep. Her symptoms have worsened over the past 2 months, making it difficult for her to live alone. She has a history of cerebral infarction, anxiety, and depression. **2. Medical case Analysis:** **Physical Examination:** The patient shows signs of increased muscle tone, normal tendon reflexes, and poor coordination. These findings are consistent with Parkinson's disease (PD). **Laboratory Examination:** The blood tests show no significant abnormalities that would suggest a stroke or cerebral hemorrhage. **Imaging Examination:** The MRI scan shows no obvious diffusion restriction high signal shadow in the brain parenchyma, normal MRA, and reduced signal in the substantia nigra. These findings are consistent with PD. **3. Select the 2 Best Possible Diseases:** Based on the analysis, the two most likely diseases are: 1. **Parkinson's Disease (PD)** 2. **Tumor Stroke** These diseases were selected based on the patient's symptoms, physical examination findings, laboratory results, and imaging studies. **4. Select the best possible disease:** After rechecking the case, I would select: 1. **Parkinson's Disease (PD)** The reasons for this selection are: * The patient's 2-year history of slow movement, difficulty in turning over and sitting up, intermittent tremors in her right hand, dull facial expression, unclear speech, dizziness, headache, and poor sleep are classic symptoms of PD. * The physical examination findings of increased muscle tone, normal tendon reflexes, and poor coordination are consistent with PD. * The imaging studies show reduced signal in the substantia nigra, which is a hallmark feature of PD. **5. Format the Disease:** = **Best possible Disease**: Parkinson's Disease - **Reasons**: - 2-year history of slow movement, difficulty in turning over and sitting up, intermittent tremors in her right hand, dull facial expression, unclear speech, dizziness, headache, and poor sleep. - Physical examination findings of increased muscle tone, normal tendon reflexes, and poor coordination. - Imaging studies show reduced signal in the substantia nigra.

gemma2: ## Medical Case Analysis **1. Summary:** An elderly female patient (78 years old) presents with a two-year history of slow movement, gait difficulties, facial expression changes, and intermittent tremors in her right hand. These symptoms have worsened over the past two months, impacting her ability to live independently. She also reports unclear speech, dizziness, headaches, and sleep disturbances. Her medical history includes cerebral infarction, anxiety, and depression. Physical examination reveals a mask face, decreased muscle tone, increased tendon reflexes, poor coordination, and positive Babinski sign. Imaging shows reduced signal in the substantia nigra on SWAN sequences. **2. Medical Case Analysis:** * **Physical Examination:** * **Mask face, slow movement (bradykinesia), rigidity, tremor:** These are classic symptoms of Parkinson's disease. * **Poor coordination (dysmetria):** Suggestive of cerebellar involvement, which can be seen in both Parkinson's and stroke. * **Laboratory Examination:** * **Elevated ESR and CRP:** Indicate inflammation, which could be associated with various conditions including infection or autoimmune disorders. However, they are not specific to any particular disease listed. * **Blood biochemistry results:** Mostly within normal limits, except for slightly elevated total cholesterol and potassium. These findings are not particularly helpful in diagnosing the specific diseases. * **Imaging Examination:** * **DWI (Diffusion-weighted imaging):** Normal - rules out acute stroke. * **MRA (Magnetic Resonance Angiography):** Normal - no evidence of vascular occlusion or stenosis. * **SWAN (Susceptibility Weighted Anatomical Imaging):** The disappearance of the bilateral substantia nigra swallow tail sign is highly suggestive of Parkinson's disease. **3. Two Most Likely Diseases:** 1. **Parkinson's Disease:** The combination of clinical symptoms, particularly bradykinesia, rigidity, tremor, and the characteristic SWAN findings in the substantia nigra strongly point towards Parkinson's disease. 2. **Cerebral Infarction (Stroke):** While DWI is normal, the patient has a history of cerebral infarction, and some symptoms like dizziness and headache could be related to recurrent stroke. **4. Best Possible Disease:** = **Best possible Disease:** Parkinson's Disease - **Reasons:** * The patient presents with classic motor symptoms of Parkinson's disease: bradykinesia, rigidity, tremor, and postural instability. * The SWAN imaging findings showing the disappearance of the substantia nigra swallow tail sign are highly specific for Parkinson's disease. * While a history of cerebral infarction exists, the current presentation is more consistent with progressive neurodegenerative changes characteristic of Parkinson's disease.

Key: 722

original: {'main-diagnosis': 'epilepsy', 'differential_diagnosis': ['Syncope', 'Pseudoseizures', 'epilepsy']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 16-year-old female who experienced a sudden loss of consciousness without any apparent cause. During the episode, she fell to the ground, had a gaze to one side with both eyes and head, clenched teeth, foaming at the mouth, and stiff limbs. The symptoms relieved after several minutes, but she complained of residual dizziness and sleepiness. She could not recall what happened after the fall. She was previously healthy. Physical examination and laboratory tests were mostly normal, with a slight increase in white blood cells and neutrophils, and a decrease in lymphocytes. Brain MRI showed no significant abnormalities. 2. ****Medical case Analysis**** The patient's symptoms of sudden loss of consciousness, gaze to one side, clenched teeth, foaming at the mouth, and stiff limbs are suggestive of a seizure. The postictal state, characterized by dizziness and sleepiness, further supports this. The increase in white blood cells and neutrophils could be due to stress or infection, but it's not specific to any of the diseases in the differential diagnosis. The normal brain MRI rules out structural abnormalities as a cause of the symptoms. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and test results, the two most likely diseases are 'Pseudoseizures' and 'Epilepsy'. 4. ****Select the best possible disease**** The best possible disease in this case is 'Epilepsy'. 5. ****Format the Disease**** = ****Best possible Disease****: Epilepsy - ****Reasons****: 1. The patient's symptoms of sudden loss of consciousness, gaze to one side, clenched teeth, foaming at the mouth, and stiff limbs are classic signs of a seizure, which is the main symptom of epilepsy. 2. The postictal state, characterized by dizziness and sleepiness, is also typical of epilepsy. 3. The normal brain MRI rules out structural abnormalities, which are often seen in other neurological conditions, but not in epilepsy, which is often a functional disorder. 4. The patient's young age is also consistent with the typical age of onset of epilepsy.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** A 16-year-old young female patient presents with a chief complaint of paroxysmal loss of consciousness for 1 day. She had a transient episode of unconsciousness without any obvious cause, followed by a fall, gaze deviation, clenching of teeth, foaming at the mouth, and stiff limbs. The symptoms resolved after several minutes, but she experienced residual dizziness and sleepiness. She was previously healthy. ****2. Medical case Analysis:**** ****Physical examination:**** The patient's neurological examination revealed no abnormalities in muscle tone, tendon reflexes, sensation, coordination, or Babinski sign. ****Laboratory examination:**** Routine blood tests showed normal white blood cell count, lymphocyte percentage, and other parameters. Blood biochemistry tests were also within normal limits. ****Imaging examination:**** The plain magnetic resonance imaging (MRI) scan revealed no focal signal abnormalities in the brain parenchyma, ventricles, or midline structures. However, a small oval-shaped long T2 signal shadow was observed in the posterior part of the pituitary gland. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Syncope:**** The patient's symptoms, such as paroxysmal loss of consciousness, fall, and residual dizziness and sleepiness, are consistent with syncope. 2. ****Pseudoseizures (Psychogenic Non-Epileptic Seizures):**** The patient's episode of unconsciousness without any obvious cause, followed by a fall and stiff limbs, could be indicative of pseudoseizures. ****4. Select the best possible disease:**** After rechecking the case, I would select ****Syncope**** as the best possible disease. ****5. Format the Disease:**** = ****Best possible Disease:**** Syncope - ****Reasons:**** * The patient's symptoms, such as paroxysmal loss of consciousness and fall, are consistent with syncope. * The laboratory examination results show no abnormalities that would suggest an underlying neurological condition. * The imaging examination reveals no focal signal abnormalities in the brain parenchyma, which makes pseudoseizures less likely.

gemma2: **## Medical Case Analysis** ****1. Summary:**** A 16-year-old female experienced a sudden episode of loss of consciousness characterized by gaze deviation, clenched teeth, foaming at the mouth, and stiff limbs. The symptoms lasted several minutes and were followed by dizziness and sleepiness. She has no prior history of similar episodes or neurological conditions. Physical examination was unremarkable except for slightly elevated white blood cell count. Brain MRI

revealed a small pituitary lesion but no other abnormalities. **2. Medical Case Analysis:** *
Physical Examination: The absence of focal neurological deficits, normal muscle tone and reflexes, and symmetrical nasolabial folds suggest that the episode wasn't caused by a stroke or localized brain lesion. However, the description of stiff limbs and altered consciousness points towards a possible seizure-like event. * **Laboratory Examination:** The elevated white blood cell count could indicate an underlying infection or inflammation, but it doesn't directly point to any specific neurological condition. * **Imaging Examination:** The MRI shows a small pituitary lesion, which is not uncommon and often asymptomatic. However, the absence of other brain abnormalities makes this finding less likely to be the primary cause of the episode. **3. Two Most Likely Diseases:** Based on the information provided, the two most likely diseases are: *
Syncope: This involves a temporary loss of consciousness due to insufficient blood flow to the brain. While the description of stiff limbs and altered consciousness might seem more suggestive of a seizure, syncope can sometimes present with atypical symptoms. * **Pseudoseizures:** These are episodes that resemble seizures but lack the underlying neurological activity. They often involve complex behaviors and psychological triggers. **4. Best Possible Disease:** Considering the absence of focal neurological deficits and the possibility of psychological factors contributing to the episode, **pseudoseizures** appear to be the most likely diagnosis. **5. Formatted Disease:** =
Best possible Disease: Pseudoseizures - **Reasons:** - The patient's description of the episode includes features suggestive of a seizure (loss of consciousness, altered movements), but there are no clear neurological deficits or abnormal brain imaging findings. - The absence of focal neurological signs and normal MRI results make epilepsy less likely. - The possibility of psychological factors contributing to the episode is significant in this case. It's important to note that this analysis is based on limited information. A thorough evaluation by a neurologist, including a detailed history, physical examination, and potentially further investigations (e.g., EEG), would be necessary for a definitive diagnosis.

Key: 727

original: {'main-diagnosis': 'epilepsy', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumor Stroke', 'epilepsy']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 70-year-old male who has been experiencing paroxysmal limb convulsions for the past 9 months. The convulsions are characterized by limb twitching and frequent single sounds, with no loss of consciousness. The frequency of attacks increased significantly 4 months ago, and the interictal period could not be relieved. The patient has been taking oral sodium valproate sustained-release tablets, which improved the symptoms. However, he had another attack 1 day ago, which was similar in nature to the previous ones. The attack relieved after more than ten minutes, leaving limb weakness. The patient has a history of COVID-19. The physical examination and laboratory tests do not show any significant abnormalities. The MRI scan shows stiff course of bilateral internal carotid arteries, bilateral anterior cerebral arteries, middle cerebral arteries, and posterior cerebral arteries, with rough arterial walls. 2. ****Medical case Analysis**** - Physical examination: The patient's physical examination is largely normal, with no significant findings in the heart, lungs, and abdomen. The neurological examination is also normal, with clear consciousness, normal understanding and orientation, fluent speech, cooperative examination, and normal muscle tone and tendon reflexes of the limbs. The bilateral Babinski sign is negative, which rules out upper motor neuron disease. - Laboratory examination: The patient's laboratory tests are largely normal, with slight abnormalities in the monocyte percentage, red blood cells, hemoglobin, hematocrit, and albumin. These could be due to the patient's age and history of COVID-19, but they do not provide any specific clues to the diagnosis. - Imaging examination: The MRI scan shows stiff course of bilateral internal carotid arteries, bilateral anterior cerebral arteries, middle cerebral arteries, and posterior cerebral arteries, with rough arterial walls. This could indicate some form of cerebrovascular disease, but it does not provide any specific clues to the diagnosis. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and the results of the physical examination, laboratory tests, and imaging examination, the two most likely diseases are: - Epilepsy: The patient's symptoms of paroxysmal limb convulsions, limb twitching, and frequent single sounds, with no loss of consciousness, are characteristic of epilepsy. The fact that the symptoms improved with sodium valproate, which is a common treatment for epilepsy, also supports this diagnosis. - Tumor Stroke: The patient's symptoms and the MRI findings could also be due to a tumor stroke. However, this is less likely than epilepsy, as the patient's symptoms are more characteristic of epilepsy, and there is no evidence of a tumor on the MRI scan. 4. ****Select the best possible disease**** After rechecking the case, the best possible disease is: - Epilepsy: The patient's symptoms are characteristic of epilepsy, and the fact that the symptoms improved with sodium valproate, which is a common treatment for epilepsy, supports this diagnosis. The MRI findings could be due to cerebrovascular changes associated with epilepsy. 5. ****Format the Disease**** = ****Best possible Disease****: Epilepsy - ****Reasons****: - The patient's symptoms of paroxysmal limb convulsions, limb twitching, and frequent single sounds, with no loss of consciousness, are characteristic of epilepsy. - The symptoms improved with sodium valproate, which is a common treatment for epilepsy. - The MRI findings could be due to cerebrovascular changes associated with epilepsy.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** The patient is a 70-year-old elderly male who has been experiencing paroxysmal limb convulsions for 9 months, with recent relapses. He has a history of COVID-19 and was previously treated with oral sodium valproate sustained-release tablets (0.5g, bid) which improved his symptoms. The physical examination is normal, but the patient has had multiple episodes of limb twitching accompanied by single sounds without loss of consciousness. Laboratory examinations show normal blood counts, biochemistry tests, and thyroid function tests. Imaging examinations reveal stiff course of bilateral internal carotid arteries, anterior cerebral arteries, middle cerebral arteries, and posterior cerebral arteries with rough arterial walls. ****2. Medical case Analysis:**** ****Physical examination:**** The patient has clear consciousness, normal understanding and orientation, fluent speech, cooperative examination, and no special findings in the heart, lungs, and abdomen. However, he experiences paroxysmal limb convulsions without obvious cause. ****Laboratory examinations:**** All blood counts, biochemistry tests, and thyroid function tests are

within normal limits, which suggests that there is no underlying metabolic or endocrine disorder contributing to his symptoms. * **Imaging examinations:** The DWI shows no obvious high signal within the cerebral parenchyma, indicating no acute ischemic stroke or hemorrhage. However, the brain MRA reveals stiff course of bilateral internal carotid arteries, anterior cerebral arteries, middle cerebral arteries, and posterior cerebral arteries with rough arterial walls, which may indicate atherosclerosis. **3. Select the 2 Best Possible Diseases:** Based on the medical case analysis, the two most likely diseases are: 1. **Epilepsy:** The patient's symptoms of paroxysmal limb convulsions without obvious cause and normal laboratory examinations suggest that epilepsy is a possible diagnosis. 2. **Tumor Stroke (Cerebral Vasculitis):** Although the imaging examinations do not show any acute ischemic stroke or hemorrhage, the stiff course of bilateral internal carotid arteries, anterior cerebral arteries, middle cerebral arteries, and posterior cerebral arteries with rough arterial walls may indicate atherosclerosis or vasculitis. This could be contributing to his symptoms. **4. Select the best possible disease:** After rechecking the case, I would select **Epilepsy** as the best possible disease. **5. Format the Disease:** = **Best possible Disease:** Epilepsy - **Reasons:** - The patient's symptoms of paroxysmal limb convulsions without obvious cause and normal laboratory examinations suggest that epilepsy is a possible diagnosis. - The patient has had multiple episodes of limb twitching accompanied by single sounds without loss of consciousness, which is consistent with epilepsy.

gemma2: ## Medical Case Analysis **1. Summary:** A 70-year-old male presents with a history of paroxysmal limb convulsions lasting 9 months. The attacks are characterized by twitching, single sounds, no loss of consciousness, and varying durations (minutes to 30 minutes). He experienced an increase in attack frequency four months ago despite treatment with sodium valproate. He recently had another attack that resolved after ten minutes, leaving him with limb weakness. His medical history includes COVID-19. Physical examination is unremarkable except for slightly elevated platelet count and erythrocyte sedimentation rate (ESR). Imaging reveals no significant abnormalities in the brain MRI except for stiff course of arteries and thickening of sinus mucous membranes. **2. Medical Case Analysis:** * **Physical Examination:** The normal neurological exam findings, including absence of Babinski sign and negative Kernig's sign, rule out certain conditions like meningitis or intracranial pressure. However, the limb weakness after the recent attack warrants further investigation. * **Laboratory Examination:** * Elevated WBC count, particularly lymphocytes and monocytes, could indicate an ongoing inflammatory response potentially related to COVID-19 or another infection. * Elevated ESR suggests inflammation but is non-specific. * Slightly elevated platelet count might be a nonspecific finding or related to the recent attack. * **Imaging Examination:** * The absence of high signal on DWI (Diffusion Weighted Imaging) rules out acute stroke. * The "stiff course" and rough arterial walls in the brain MRA suggest vascular disease, which could contribute to seizures. **3. Select the 2 Best Possible Diseases:** Based on the information provided, the two most likely diseases are: 1. **Epilepsy:** The patient's history of recurrent limb convulsions with varying durations and absence of loss of consciousness strongly suggests epilepsy. 2. **Vascular Epilepsy:** The stiff course of arteries in the brain MRA raises the possibility of vascular disease contributing to seizures, leading to a diagnosis of vascular epilepsy. **4. Select the Best Possible Disease:** Considering the patient's history of convulsions, the lack of other neurological deficits, and the suggestive imaging findings, **Epilepsy** is the most likely diagnosis. **5. Format the Disease:** = **Best possible Disease:** Epilepsy - **Reasons:** - Recurrent episodes of limb convulsions lasting minutes to 30 minutes with no loss of consciousness are highly suggestive of epilepsy. - The absence of other neurological deficits on physical examination supports this diagnosis. - While vascular disease is suggested by the brain MRA, it doesn't fully explain the patient's symptoms and history.

Key: 732

original: {'main-diagnosis': 'transient ischemic attack', 'differential_diagnosis': ['Cerebral hemorrhage', 'Tumor stroke', 'transient ischemic attack']}

gpt-4: 1. **Summarize the medical case.** The patient is a 65-year-old female who experienced a transient loss of consciousness for about 1 minute, three hours ago. She was unresponsive during this period and fell to the ground. She cannot recall the events leading up to the loss of consciousness. She also reports intermittent palpitations and dizziness but no headache, vertigo, tinnitus, hearing loss, speech impairment, or choking while drinking. Her physical examination is largely normal, with no neurological deficits. Her laboratory tests show a slight decrease in red blood cell count and hemoglobin, indicating mild anemia. Her imaging examinations, including MRI and echocardiogram, are normal. 2. **Medical case Analysis** - **Physical examination**: The patient's physical examination is largely normal, with no neurological deficits. This makes conditions like cerebral hemorrhage and tumor stroke less likely, as these conditions would typically present with neurological symptoms and signs. - **Laboratory examination**: The patient's laboratory tests show a slight decrease in red blood cell count and hemoglobin, indicating mild anemia. However, this is not directly related to the neurological symptoms the patient is experiencing. - **Imaging examination**: The patient's imaging examinations, including MRI and echocardiogram, are normal. This makes conditions like cerebral hemorrhage and tumor stroke less likely, as these conditions would typically show abnormalities on these imaging studies. 3. **Select the 2 Best Possible Diseases** Based on the patient's symptoms and the results of the physical examination, laboratory tests, and imaging studies, the two most likely diseases are: - Transient ischemic attack (TIA): The patient's symptoms of transient loss of consciousness, palpitations, and dizziness could be consistent with a TIA. Additionally, the lack of abnormalities on physical examination and imaging studies is consistent with a TIA, as these attacks often leave no permanent neurological deficits or imaging abnormalities. - Tumor stroke: Although less likely, a tumor stroke could potentially cause transient loss of consciousness. However, the lack of neurological deficits on physical examination and the normal imaging studies make this diagnosis less likely. 4. **Select the best possible disease** The best possible disease for this patient is a transient ischemic attack (TIA). 5. **Format the Disease** = **Best possible Disease**: Transient Ischemic Attack (TIA) - **Reasons**: - The patient's symptoms of transient loss of consciousness, palpitations, and dizziness are consistent with a TIA. - The lack of neurological deficits on physical examination is consistent with a TIA, as these attacks often leave no permanent neurological deficits. - The normal imaging studies are also consistent with a TIA, as these attacks often leave no imaging abnormalities.

llama3.1: Here are the step-by-step solutions to the medical case: **1. Summarize the medical case:** A 65-year-old middle-aged female patient experienced a transient loss of consciousness (blackout) for 3 hours, with no prior history of similar episodes. She regained consciousness after about 1 minute and had intermittent palpitations and dizziness but no headache or vertigo. The physical examination was normal, with no focal neurological deficits. Laboratory tests showed normal blood counts, electrolytes, and liver function tests. Imaging studies (MRI and echocardiogram) were also unremarkable. **2. Medical case Analysis:** **Physical Examination:** Normal consciousness, orientation, and speech; no focal neurological deficits. **Laboratory Examination:** Normal blood counts, electrolytes, and liver function tests. **Imaging Examination:** + MRI: No focal signal abnormalities in the brain parenchyma. + Echocardiogram: Normal cardiac structure and function. **3. Select the 2 Best Possible Diseases:** Based on the medical case analysis, the two most likely diseases are: 1. **Transient Ischemic Attack (TIA):** The patient experienced a transient loss of consciousness (blackout) for 3 hours. No focal neurological deficits were found in the physical examination. Imaging studies showed no evidence of cerebral hemorrhage or tumor stroke. 2. **Cerebral Hemorrhage:** Although less likely, it cannot be ruled out entirely due to the sudden onset of symptoms. **4. Select the best possible disease:** After rechecking the case, I would choose: 1. **Transient Ischemic Attack (TIA):** The patient's symptoms were transient and resolved within 3 hours. No focal neurological deficits were found in the physical examination. Imaging studies showed no evidence of cerebral hemorrhage or tumor stroke. **5. Format the Disease:** = **Best possible Disease:** Transient Ischemic Attack (TIA) - **Reasons:** 1. The patient's symptoms were transient and resolved within 3 hours. 2. No

focal neurological deficits were found in the physical examination. 3. Imaging studies showed no evidence of cerebral hemorrhage or tumor stroke.

gemma2: ## Medical Case Analysis **1. Summary:** A 65-year-old female experienced a transient loss of consciousness (LOC) lasting approximately 1 minute, accompanied by palpitations and dizziness. She has no headache, vertigo, tinnitus, hearing loss, speech impairment, or choking while drinking. Her neurological examination is normal, with no focal deficits. Laboratory tests show mild anemia and elevated RDW-CV, but otherwise unremarkable. Imaging studies (MRI, MRA, echocardiogram) reveal no evidence of cerebral hemorrhage, tumor stroke, or significant vascular abnormalities. **2. Medical Case Analysis:** * **Physical Examination:** Normal neurological examination with clear consciousness, intact motor function, and normal reflexes rules out major focal neurological deficits often seen in stroke or hemorrhage. The absence of headache, vertigo, tinnitus, etc., also suggests a less severe event than typical stroke symptoms. * **Laboratory Examination:** Mild anemia (Hb 84 g/L) and elevated RDW-CV (18.7%) could indicate underlying conditions like iron deficiency or vitamin B12 deficiency, but these are not directly suggestive of the listed neurological diseases. * **Imaging Examination:** * **MRI:** Normal brain parenchyma, no diffusion restriction, and normal ventricular size and shape rule out acute ischemic stroke or hemorrhage. * **MRA:** Normal course and appearance of major cerebral arteries exclude significant vascular stenosis or occlusion. * **Echocardiogram:** Mild mitral and tricuspid regurgitation are observed, but the overall cardiac function appears normal. No evidence of atrial fibrillation or other arrhythmias that could contribute to stroke. **3. Two Most Likely Diseases:** 1. **Transient Ischemic Attack (TIA):** The patient's symptoms (LOC, palpitations, dizziness) and lack of significant neurological deficits are consistent with a TIA. 2. **Vasovagal Syncope:** This condition involves a sudden drop in blood pressure and heart rate triggered by emotional or physical stress, leading to LOC. The absence of focal neurological findings and the presence of palpitations support this possibility. **4. Best Possible Disease:** = **Transient Ischemic Attack (TIA)** - The patient experienced transient loss of consciousness, a classic symptom of TIA. - Imaging studies ruled out stroke or hemorrhage. - The absence of significant neurological deficits suggests a temporary blockage in blood flow to the brain. **5. Important Note:** This analysis is based on the provided information and should not be considered a definitive diagnosis. A thorough clinical evaluation by a qualified neurologist is essential for accurate diagnosis and management.

Key: 737

original: {'main-diagnosis': 'transient ischemic attack', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumor Stroke', 'transient ischemic attack']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 50-year-old male who experienced sudden blurred vision in both eyes and a disturbance in consciousness while riding a bicycle. He fell to the ground, landing on his right side, and experienced no convulsions, clenched teeth, or frothing at the mouth. After regaining consciousness, he felt dizzy and uncomfortable, with numbness and weakness in his right limbs. His physical examination was largely normal, with clear consciousness, normal comprehension and orientation, fluent speech, and cooperative behavior. His laboratory examination results were also largely within normal ranges. His imaging examination showed spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area, with clear boundaries. The cerebral sulcus and fissure are widened, and the right parietal cortex is thinned. The right cerebral peduncle has become smaller. 2. ****Medical case Analysis**** The sudden onset of blurred vision and disturbance in consciousness, followed by numbness and weakness in the right limbs, suggests a neurological event. The imaging findings of spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area, with clear boundaries, suggest a localized event such as a stroke. The absence of convulsions, clenched teeth, or frothing at the mouth rules out a seizure. The normal laboratory results rule out an infection or systemic disease. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and imaging findings, the two most likely diseases are 'Cerebral Hemorrhage' and 'transient ischemic attack'. 4. ****Select the best possible disease**** The best possible disease for this patient is 'transient ischemic attack'. 5. ****Format the Disease**** = ****Best possible Disease****: Transient Ischemic Attack - ****Reasons****: The patient's sudden onset of blurred vision and disturbance in consciousness, followed by numbness and weakness in the right limbs, are classic symptoms of a transient ischemic attack. The imaging findings of spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area, with clear boundaries, further support this diagnosis. The absence of convulsions, clenched teeth, or frothing at the mouth rules out a seizure, and the normal laboratory results rule out an infection or systemic disease.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** A 50-year-old male patient experienced sudden blurred vision in both eyes accompanied by consciousness disturbance for 3 hours. He had a history of good health until this incident. After regaining consciousness, he felt dizzy and uncomfortable, accompanied by numbness and weakness in his right limbs. ****2. Medical case Analysis:**** ****Physical examination:**** The patient has clear consciousness, normal comprehension and orientation, fluent speech, and cooperative during the examination. However, there are no special findings in the heart, lungs, or abdomen. ****Laboratory examination:**** Routine blood test shows normal white blood cell count, lymphocyte percentage, monocyte percentage, neutrophil percentage, absolute lymphocyte count, absolute monocyte count, absolute neutrophil count, red blood cell count, hemoglobin, hematocrit, mean corpuscular volume, mean corpuscular hemoglobin, and mean corpuscular hemoglobin concentration. Blood biochemistry test shows normal total protein, albumin, globulin, albumin/globulin ratio, total bilirubin, direct bilirubin, indirect bilirubin, alkaline phosphatase, lactate dehydrogenase, gamma-glutamyltransferase, prealbumin, creatine kinase, alpha-hydroxybutyrate dehydrogenase, glucose, urea, creatinine, uric acid, total cholesterol, triglycerides, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol, homocysteine, calcium, potassium, sodium, chloride, osmotic pressure, hemolysis, jaundice, and lipemia. ****Imaging examination:**** Plain magnetic resonance imaging scan shows spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area. The cerebral sulcus and fissure are widened, and the right cerebral peduncle has become smaller. Echocardiogram shows normal diameters of each atrium and ventricle, interventricular septum, and posterior wall of the left ventricle. Color Doppler ultrasound shows normal blood flow velocity, spectrum, and pulse index in the intracranial segment of bilateral vertebral arteries and the basilar artery. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Transient Ischemic Attack (TIA)****: The patient experienced sudden blurred vision in both eyes accompanied by consciousness disturbance for 3 hours, which is a classic symptom of TIA. 2.

Cerebral Hemorrhage: The imaging examination shows spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area, which could be indicative of cerebral hemorrhage. **4. Select the best possible disease:** After rechecking the case, I would select **Cerebral Hemorrhage** as the best possible disease. **5. Format the Disease:** = **Best possible Disease**: Cerebral Hemorrhage - **Reasons**: Spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area on imaging examination, which could be indicative of cerebral hemorrhage. The patient's symptoms, such as sudden blurred vision in both eyes accompanied by consciousness disturbance for 3 hours, are consistent with cerebral hemorrhage.

gemma2: ## Medical Case Analysis **1. Summary:** A 50-year-old male experienced sudden blurred vision in both eyes while cycling, followed by loss of consciousness and a fall. He regained consciousness with dizziness, numbness, and weakness in his right limbs. Neurological examination revealed no focal deficits, but imaging showed abnormalities suggestive of stroke. **2. Medical Case Analysis:** **Physical Examination:** The patient's clear consciousness, normal speech, symmetrical muscle tone, and negative Babinski sign suggest a lack of severe neurological damage. However, the weakness and numbness on his right side point towards potential brain involvement. **Laboratory Examination:** The blood work is largely within normal limits, with slightly elevated cholesterol and uric acid levels. These are not specific to any of the listed diseases but could indicate underlying risk factors. **Imaging Examination:** The MRI reveals: Spotted T1WI low signal and T2WI high signal shadows in the right parietal lobe and basal ganglia area, consistent with ischemic stroke. Widened cerebral sulcus and thinned cortex in the right parietal region, further supporting a stroke event. Smaller right cerebral peduncle, indicating potential damage to this crucial brain pathway. **3. Two Most Likely Diseases:** Based on the information provided, the two most likely diseases are: **Cerebral Hemorrhage:** While less likely than ischemic stroke given the MRI findings, hemorrhage cannot be completely ruled out without further investigation (e.g., CT scan). **Transient Ischemic Attack (TIA):** The patient's symptoms resolved quickly, and his NIHSS score is 0, suggesting a possible TIA. However, the MRI findings point towards more significant brain damage than typically seen in TIAs. **4. Best Possible Disease:** Considering the combination of symptoms, physical examination, and imaging results, **Cerebral Hemorrhage** seems less likely due to the absence of typical hemorrhage signs on the MRI. **5. Formatted Disease:** = **Best possible Disease**: Tumor Stroke - **Reasons**: - The MRI shows specific areas of low signal intensity (T1WI) and high signal intensity (T2WI) in the right parietal lobe and basal ganglia, consistent with ischemic stroke caused by a blockage in an artery. - The widened cerebral sulcus and thinned cortex in the right parietal region further support this diagnosis.

Key: 742

original: {'main-diagnosis': 'myelitis', 'differential_diagnosis': ['Spinal Vascular Disease', 'Acute Spinal Cord Compression Syndrome', 'myelitis']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 40-year-old female who has been experiencing back pain for the past 5 days and lower limb weakness for the past 7 hours. She has a history of optic neuromyelitis. Her physical examination shows reduced muscle strength and tone in the lower limbs, and reduced shallow sensation below the neck. Her laboratory tests show slightly elevated monocyte percentage and C-reactive protein, and slightly decreased lymphocyte absolute value and albumin. Her cerebrospinal fluid test is normal. Her MRI scan shows prolonged T1 and T2 signals in the white matter adjacent to the bilateral lateral ventricles and the right frontal parietal lobe, and protrusion of the intervertebral discs of C4/5, C5/6, and C6/7. 2. ****Medical case Analysis**** The patient's symptoms of back pain and lower limb weakness, along with her history of optic neuromyelitis, suggest a neurological disorder. The MRI findings of prolonged T1 and T2 signals in the white matter and protrusion of the intervertebral discs could indicate spinal cord compression or inflammation. The slightly elevated monocyte percentage and C-reactive protein in her blood tests could indicate an ongoing inflammatory process. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms, history, and test results, the two most likely diseases are Acute Spinal Cord Compression Syndrome and myelitis. 4. ****Select the best possible disease**** The best possible disease for this patient is myelitis. 5. ****Format the Disease**** = ****Best possible Disease****: Myelitis - ****Reasons****: 1. The patient's symptoms of back pain and lower limb weakness are consistent with myelitis, which can cause pain and weakness in the limbs. 2. The patient's history of optic neuromyelitis suggests a predisposition to inflammatory disorders of the nervous system, such as myelitis. 3. The MRI findings of prolonged T1 and T2 signals in the white matter could indicate inflammation of the spinal cord, which is characteristic of myelitis. 4. The slightly elevated monocyte percentage and C-reactive protein in the patient's blood tests could indicate an ongoing inflammatory process, which is consistent with myelitis.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** A 40-year-old middle-aged female patient presents with a 5-day history of back pain that has progressively worsened over the past 7 hours, accompanied by lower limb weakness. She has a history of optic neuromyelitis. Physical examination reveals reduced muscle tone and strength in the lower limbs, shallow sensation below the neck, and normal reflexes. Laboratory tests show elevated ESR (47 mm/h) and CRP (4.06 mg/L), with normal blood counts and biochemistry results. Cerebrospinal fluid analysis is unremarkable. Imaging studies reveal prolonged T1 and T2 signals in the white matter adjacent to the bilateral lateral ventricles and the right frontal parietal lobe, without enhancement. ****2. Medical case Analysis:**** * Physical examination: + Reduced muscle tone and strength in the lower limbs suggest a neurological issue. + Normal reflexes and sensation above the neck may indicate a localized problem. * Laboratory tests: + Elevated ESR and CRP suggest inflammation or infection. + Normal blood counts and biochemistry results make systemic diseases less likely. * Cerebrospinal fluid analysis: + Unremarkable results reduce the likelihood of meningitis or encephalitis. * Imaging studies: + Prolonged T1 and T2 signals in the white matter suggest demyelination or inflammation. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Acute Spinal Cord Compression Syndrome****: The patient's progressive lower limb weakness, reduced muscle tone, and shallow sensation below the neck suggest compression of the spinal cord. 2. ****Myelitis****: The patient's history of optic neuromyelitis, elevated ESR and CRP, and imaging findings of demyelination in the white matter adjacent to the bilateral lateral ventricles and the right frontal parietal lobe make myelitis a strong consideration. ****4. Select the best possible disease:**** After rechecking the case, I would select ****Myelitis**** as the best possible disease. ****5. Format the Disease:**** = ****Best possible Disease****: Myelitis - ****Reasons****: + History of optic neuromyelitis. + Elevated ESR and CRP suggesting inflammation. + Imaging findings of demyelination in the white matter. + Progressive lower limb weakness and reduced muscle tone, consistent with spinal cord involvement.

gemma2: **## Medical Case Analysis** ****1. Summary:**** A 40-year-old female presents with a 5-day history of back pain that worsened 7 hours prior to presentation, accompanied by lower limb weakness. She has a past medical history of optic neuromyelitis. Physical examination reveals

lower limb muscle weakness (grade I), reduced tone, and absent Babinski sign. Neurological exam is otherwise normal. Laboratory tests show elevated ESR and CRP, suggesting inflammation. MRI shows T1/T2 hyperintensity in the white matter adjacent to the lateral ventricles and right frontal parietal lobe, consistent with demyelination. Cervical spine MRI reveals disc protrusions at C4/5, C5/6, and C6/7 compressing the dural sac. **2. Medical Case Analysis:** * **Physical Examination:** * Lower limb weakness (grade I) and reduced tone are suggestive of a spinal cord lesion affecting motor function. * Absence of Babinski sign argues against upper motor neuron lesions, pointing towards a lower motor neuron or spinal cord pathology. * **Laboratory Examination:** * Elevated ESR and CRP indicate inflammation, which could be associated with autoimmune conditions like myelitis. * **Imaging Examination:** * MRI findings of T1/T2 hyperintensity in the white matter are characteristic of demyelination, seen in multiple sclerosis (MS) and transverse myelitis. * Cervical spine MRI showing disc protrusions compressing the dural sac is consistent with spinal stenosis or acute spinal cord compression syndrome. **3. Two Most Likely Diseases:** 1. **Transverse Myelitis:** The combination of back pain, lower limb weakness, demyelination on MRI, and elevated inflammatory markers strongly suggests transverse myelitis. 2. **Acute Spinal Cord Compression Syndrome:** The cervical spine MRI showing disc protrusions compressing the dural sac supports this diagnosis. **4. Best Possible Disease:** = **Transverse Myelitis:** - The patient's history of optic neuromyelitis, a known autoimmune condition affecting the central nervous system, increases the likelihood of transverse myelitis. - The MRI findings of demyelination in the white matter are highly suggestive of this diagnosis. - While cervical spine compression could contribute to her symptoms, the presence of demyelination points more strongly towards transverse myelitis as the primary cause.

Key: 747

original: {'main-diagnosis': 'myelitis', 'differential_diagnosis': ['Guillain-Barre Syndrome', 'Periodic Paralysis', 'Spinal Cord Compression Syndrome', 'myelitis']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 51-year-old female who has been experiencing numbness and weakness in both lower limbs for 3 days, which has worsened to include both upper limbs for 1 day. She has a history of appendicitis surgery and autoimmune encephalitis. Physical examination shows diminished pain sensation below the xiphoid process and bilateral costal margins. Laboratory examination results are within normal ranges. Imaging examination shows mild osteophyte formation at the edge of some vertebrae and intervertebral discs protrusion at thoracic 7/8 and 8/9, slightly compressing the dural sac. 2. ****Medical case Analysis**** - Guillain-Barre Syndrome: This is a neurological disorder in which the body's immune system mistakenly attacks the peripheral nerves. The patient's symptoms of numbness and weakness in the limbs could be indicative of this, but there is no evidence of progressive muscle weakness or areflexia, which are typical of Guillain-Barre Syndrome. - Periodic Paralysis: This is a group of rare genetic diseases that lead to weakness or paralysis from common triggers such as cold, heat, high carbohydrate meals, hunger, stress or excitement and physical activity. The patient's symptoms could be indicative of this, but there is no evidence of periodicity or triggers. - Spinal Cord Compression Syndrome: This occurs when a mass places pressure on the cord. The patient's imaging examination shows intervertebral discs protrusion at thoracic 7/8 and 8/9, slightly compressing the dural sac, which could cause symptoms of numbness and weakness in the limbs. - Myelitis: This is inflammation of the spinal cord which can cause symptoms of numbness, weakness, and diminished pain sensation. The patient's symptoms could be indicative of this, but there is no evidence of inflammation in the spinal cord from the imaging examination. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms, medical history, and examination results, the two most likely diseases are Spinal Cord Compression Syndrome and Myelitis. 4. ****Select the best possible disease**** After rechecking the case, the best possible disease is Spinal Cord Compression Syndrome. 5. ****Format the Disease**** = ****Best possible Disease****: Spinal Cord Compression Syndrome - ****Reasons****: 1. The patient's symptoms of numbness and weakness in both lower and upper limbs are consistent with Spinal Cord Compression Syndrome. 2. The imaging examination shows intervertebral discs protrusion at thoracic 7/8 and 8/9, slightly compressing the dural sac, which could cause the patient's symptoms. 3. The patient's medical history of autoimmune encephalitis could potentially increase the risk of spinal cord issues.

llama3.1: I'll follow the step-by-step approach to solve the medical case. ****1. Summarize the medical case.**** A 51-year-old middle-aged female patient presents with numbness and weakness in both lower limbs for 3 days, worsening with numbness in both upper limbs for 1 day. She has a history of appendicitis surgery and autoimmune encephalitis. Physical examination reveals normal muscle tone and tendon reflexes, but diminished pain sensation below the xiphoid process and bilateral costal margins. Laboratory examinations show normal blood counts and biochemistry results, except for slightly elevated S100 β protein levels. Cerebrospinal fluid (CSF) analysis is normal. Imaging studies reveal mild osteophyte formation and reduced T2WI signal of some intervertebral discs. ****2. Medical case Analysis:**** ****Physical examination:**** The patient's neurological examination is largely unremarkable, with no special findings in heart and abdomen. However, the diminished pain sensation below the xiphoid process and bilateral costal margins suggests a possible involvement of the spinal cord or peripheral nerves. ****Laboratory examinations:**** Normal blood counts and biochemistry results make conditions like Periodic Paralysis less likely. The slightly elevated S100 β protein levels are more indicative of central nervous system (CNS) involvement, but not specific to any particular disease. ****Imaging studies:**** The mild osteophyte formation and reduced T2WI signal of some intervertebral discs suggest degenerative changes in the spine, which could be related to Spinal Cord Compression Syndrome. ****3. Select the 2 Best Possible Diseases:**** Based on the analysis above, I would select the following two diseases as the most likely: 1. ****Guillain-Barre Syndrome (GBS):**** The patient's rapid progression of numbness and weakness in both lower limbs to upper limbs, along with normal CSF analysis, is consistent with GBS. 2. ****Spinal Cord Compression Syndrome:**** The mild osteophyte formation and reduced T2WI signal of some intervertebral discs suggest degenerative changes in

the spine, which could be compressing the spinal cord. **4. Select the best possible disease:** After rechecking the case, I would select: 1. **Guillain-Barre Syndrome (GBS):** The patient's rapid progression of numbness and weakness in both lower limbs to upper limbs, along with normal CSF analysis, is more consistent with GBS. **5. Format the Disease:** = **Best possible Disease:** Guillain-Barre Syndrome - **Reasons:** - Rapid progression of numbness and weakness in both lower limbs to upper limbs. - Normal cerebrospinal fluid (CSF) analysis. - No evidence of spinal cord compression or other structural abnormalities.

gemma2: ## Medical Case Analysis **1. Summary:** A 51-year-old female presents with a 3-day history of numbness and weakness in both lower limbs, described as "stepping on cotton," which has worsened over the past day to include numbness and weakness in both upper limbs. She reports feeling weak when raising her arms. She has a history of appendicitis surgery and autoimmune encephalitis. **2. Medical Case Analysis:** * **Physical Examination:** * Symmetrical muscle tone, reflexes, and coordination movements suggest a less likely diagnosis of spinal cord compression syndrome, which typically presents with asymmetric findings. * Diminished pain sensation below the xiphoid process and bilateral costal margins points towards a possible neurological issue affecting sensory pathways. * Negative Babinski sign and Kernig's sign rule out certain conditions like meningitis or meningeal irritation. * **Laboratory Examination:** * Routine blood test results are within normal limits, excluding any significant inflammatory markers or infections. * Blood biochemistry tests show elevated cholesterol levels but no other abnormalities that directly point towards a specific neurological condition. * Cerebrospinal fluid analysis reveals clear fluid with normal glucose and protein levels, ruling out meningitis or encephalitis. * **Imaging Examination:** * MRI shows mild osteophyte formation and disc protrusion at the thoracic 7/8 and 8/9 intervertebral discs, slightly compressing the dural sac. This finding suggests a possible diagnosis of spinal cord compression syndrome. However, the absence of significant neurological deficits beyond sensory changes makes this less likely. **3. Two Most Likely Diseases:** * **Guillain-Barre Syndrome (GBS):** The patient's presentation with rapidly progressive weakness and numbness in both upper and lower limbs, starting distally, aligns with GBS. * **Myelitis:** The sensory changes and potential for ascending weakness could also indicate myelitis, an inflammation of the spinal cord. **4. Best Possible Disease:** = **Best possible Disease:** Guillain-Barre Syndrome (GBS) - **Reasons:** - The patient's symptoms of rapidly progressive weakness and numbness in both upper and lower limbs, starting distally, are characteristic of GBS. - The absence of significant motor deficits beyond weakness suggests a less severe form of spinal cord compression syndrome. - While myelitis is possible, the lack of fever or other systemic symptoms makes GBS more likely. **Important Note:** This analysis is based solely on the provided information and should not be considered a definitive diagnosis. A thorough clinical evaluation by a qualified neurologist is essential for accurate diagnosis and treatment.

Key: 752

original: {'main-diagnosis': 'cerebral infarction', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumorous Stroke', 'cerebral infarction']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 67-year-old male who has been experiencing dizziness for the past 10 days. The dizziness is described as a sense of dullness and cloudiness in the head, which can be relieved after rest. There are no other symptoms such as spinning objects, blackness in front of the eyes, unsteady standing, numbness and weakness of limbs, visual field defects, speech impairment, and water choking. The patient was previously healthy. Physical examination shows normal understanding and orientation, fluent speech, and cooperative with the examination. Laboratory examination shows normal blood test results and blood biochemistry test results. Imaging examination shows dot-like abnormal signal shadows visible on the sides of the bilateral lateral ventricles and the frontal lobe, with low signals on T1WI, high signals on T2WI, and high signals on FLAIR. The ventricular system is slightly widened, and no significant widening or deepening of the brain grooves and pools is observed. No significant displacement is observed. No obvious malformed vascular group is seen in the skull. No obvious abnormal high signal is seen in the DWI sequence, the ventricular system is normal, and the midline structure is centered. 2. ****Medical case Analysis**** The patient's symptoms, physical examination, laboratory examination, and imaging examination do not show any signs of cerebral hemorrhage or tumorous stroke. The symptoms of dizziness and the imaging examination results showing dot-like abnormal signal shadows visible on the sides of the bilateral lateral ventricles and the frontal lobe, with low signals on T1WI, high signals on T2WI, and high signals on FLAIR, could be indicative of cerebral infarction. 3. ****Select the 2 Best Possible Diseases**** Based on the given medical case, the two most likely diseases are: - Cerebral Infarction - Tumorous Stroke 4. ****Select the best possible disease**** After rechecking the case, the best possible disease is Cerebral Infarction. 5. ****Format the Disease**** = ****Best possible Disease****: Cerebral Infarction - ****Reasons****: 1. The patient's symptoms of dizziness and the absence of other symptoms such as spinning objects, blackness in front of the eyes, unsteady standing, numbness and weakness of limbs, visual field defects, speech impairment, and water choking, are more indicative of cerebral infarction. 2. The imaging examination results showing dot-like abnormal signal shadows visible on the sides of the bilateral lateral ventricles and the frontal lobe, with low signals on T1WI, high signals on T2WI, and high signals on FLAIR, are indicative of cerebral infarction. 3. The absence of signs of cerebral hemorrhage or tumorous stroke in the patient's symptoms, physical examination, laboratory examination, and imaging examination further supports the diagnosis of cerebral infarction.

llama3.1: Here's the step-by-step solution to the medical case: ****1. Summarize the medical case:**** The patient is a 67-year-old elderly male who has been experiencing dizziness for 10 days. The symptoms started with a sense of dullness and cloudiness in the head, which improved after rest. There are no other neurological symptoms such as spinning objects, blackness in front of the eyes, unsteady standing, numbness and weakness of limbs, visual field defects, speech impairment, or water choking. The physical examination is normal, with no abnormalities in muscle tone, tendon reflexes, muscle strength, sensation, coordination movements, Babinski's sign, Kernig's sign, NIHSS score, Wada's water drinking test, mRS score, and ADL score. Laboratory examinations show normal blood counts, biochemistry tests, and ESR/CRP levels. Imaging examinations reveal dot-like abnormal signal shadows on the sides of bilateral lateral ventricles and frontal lobe on MRI, with no significant widening or deepening of brain grooves and pools. ****2. Medical case Analysis:**** The patient's symptoms of dizziness without other neurological deficits suggest a possible vascular event such as cerebral infarction (stroke). The normal physical examination results make it less likely to be a severe stroke or other neurological conditions. Laboratory examinations show no abnormalities that would indicate an infection, inflammation, or metabolic disorders. Imaging examinations reveal dot-like abnormal signal shadows on the sides of bilateral lateral ventricles and frontal lobe, which could suggest a small vessel disease or cerebral infarction. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Cerebral Infarction (Stroke)****: The patient's symptoms of dizziness without other neurological deficits and normal physical examination results make it a possible vascular event such as cerebral infarction. 2. ****Tumorous Stroke****: Although less likely than

cerebral infarction, the dot-like abnormal signal shadows on the sides of bilateral lateral ventricles and frontal lobe could suggest a small tumor or cystic lesion causing symptoms. **4. Select the best possible disease:** After rechecking the case, I would select **Cerebral Infarction (Stroke)** as the best possible disease. **5. Format the Disease:** = **Best possible Disease**: Cerebral Infarction (Stroke) - **Reasons**: - The patient's symptoms of dizziness without other neurological deficits. - Normal physical examination results. - Laboratory examinations show no abnormalities that would indicate an infection, inflammation, or metabolic disorders. - Imaging examinations reveal dot-like abnormal signal shadows on the sides of bilateral lateral ventricles and frontal lobe.

gemma2: ## Medical Case Analysis **1. Summary:** A 67-year-old male presents with a 10-day history of dizziness described as a "dullness and cloudiness in the head." He reports no other symptoms like spinning, vision changes, weakness, numbness, speech difficulties, or swallowing problems. His physical examination is normal, including neurological assessments (NIHSS, Wada's test, mRS, ADL). Laboratory tests show slightly elevated total protein and albumin with a normal complete blood count and metabolic panel. Imaging reveals dot-like abnormal signal shadows in the brain parenchyma on MRI, suggestive of small infarcts. The echocardiogram shows mild mitral and tricuspid regurgitation. **2. Medical Case Analysis:** * **Physical Examination:** A normal neurological examination helps rule out severe stroke or other acute neurological conditions. However, it doesn't provide specific information about the underlying cause of dizziness. * **Laboratory Examination:** Slightly elevated total protein and albumin could indicate inflammation or chronic liver disease, but they are not specific to any of the listed diseases. Normal CBC and metabolic panel further rule out common causes like infection or anemia. * **Imaging Examination:** * **MRI:** The presence of dot-like abnormal signal shadows in the brain parenchyma on MRI is highly suggestive of small infarcts (cerebral infarction). These are areas of dead brain tissue due to lack of blood supply. * **Echocardiogram:** Mild mitral and tricuspid regurgitation could be a contributing factor to dizziness, but it doesn't directly point towards cerebral infarction or hemorrhage. **3. Select the 2 Best Possible Diseases:** Based on the information provided, the two most likely diseases are: 1. **Cerebral Infarction:** The MRI findings of dot-like abnormal signal shadows in the brain parenchyma strongly suggest small infarcts. 2. **Tumorous Stroke:** While less likely than cerebral infarction, a tumor could be causing pressure on blood vessels in the brain, leading to ischemia and stroke symptoms. **4. Select the Best Possible Disease:** Considering the MRI findings as the most significant evidence, **Cerebral Infarction** is the most likely diagnosis. **5. Format the Disease:** = **Best possible Disease**: Cerebral Infarction - **Reasons**: - The presence of dot-like abnormal signal shadows in the brain parenchyma on MRI strongly suggests small infarcts, which are areas of dead brain tissue due to lack of blood supply. - The patient's symptoms of dizziness align with those commonly associated with cerebral infarction.

Key: 757

original: {'main-diagnosis': 'cerebral infarction', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumor Stroke', 'cerebral infarction']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 43-year-old male with a history of hypertension and cerebral infarction. He has been experiencing weakness in his right lower limb for over two months, which can be relieved after rest. His physical examination shows normal understanding and orientation, fluent speech, symmetrical and normal muscle tone and tendon reflexes in all limbs, except for slightly weaker muscle strength in the right lower limb. His laboratory examination results are mostly within normal ranges, with slightly elevated creatinine and triglycerides, and significantly elevated homocysteine. His imaging examination shows multiple punctate and patchy abnormal signals in various areas of the brain, but no significant diffusion-restricted high signal is observed within the brain parenchyma. His echocardiogram shows slight enlargement of the left heart and thickening of the left ventricular wall, with $E/A < 1$ and E/e' (average)=15. His color Doppler ultrasound shows localized thickening of the intima at the bifurcation on the right side of the common carotid artery, with an echogenic plaque of about 15.6mm×1.8mm on the posterior wall at the bifurcation on the right side. 2. ****Medical case Analysis**** The patient's history of hypertension and cerebral infarction, along with his symptoms of limb weakness, elevated homocysteine, and abnormal signals in the brain on MRI, suggest a neurological disorder. The echocardiogram findings of left heart enlargement and left ventricular wall thickening, along with $E/A < 1$ and E/e' (average)=15, suggest diastolic dysfunction, which can lead to cerebral infarction due to reduced blood flow to the brain. The color Doppler ultrasound findings of thickening of the intima and plaque in the right common carotid artery suggest atherosclerosis, which can also lead to cerebral infarction due to reduced blood flow to the brain. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's medical history, physical examination, laboratory examination, and imaging examination, the two most likely diseases are 'Cerebral Hemorrhage' and 'cerebral infarction'. 4. ****Select the best possible disease**** After rechecking the case, the best possible disease is 'cerebral infarction'. 5. ****Format the Disease**** = ****Best possible Disease****: Cerebral Infarction - ****Reasons****: - The patient has a history of hypertension and cerebral infarction, which are risk factors for another cerebral infarction. - The patient's symptoms of limb weakness can be caused by cerebral infarction. - The patient's elevated homocysteine level is a risk factor for cerebral infarction. - The patient's MRI shows multiple punctate and patchy abnormal signals in various areas of the brain, which are consistent with cerebral infarction. - The patient's echocardiogram shows diastolic dysfunction, which can lead to cerebral infarction due to reduced blood flow to the brain. - The patient's color Doppler ultrasound shows atherosclerosis in the right common carotid artery, which can lead to cerebral infarction due to reduced blood flow to the brain.

llama3.1: Here are the step-by-step solutions to the medical case: ****1. Summarize the medical case:**** A 43-year-old male patient presents with weakness in his right lower limb for over 2 months, which is relieved after rest. He has a history of hypertension and cerebral infarction. Physical examination reveals normal muscle tone, tendon reflexes, sensation, and coordination movements in all limbs, but the right lower limb muscle strength is grade V-. Laboratory examinations show normal blood test results, and imaging examinations reveal multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, frontal, and parietal lobes on MRI. ****2. Medical case Analysis:**** * Physical examination: + Normal muscle tone, tendon reflexes, sensation, and coordination movements in all limbs suggest that the patient does not have a severe neurological deficit. + However, weakness in the right lower limb indicates some level of neurological impairment. * Laboratory examinations: + Normal blood test results do not provide any specific clues about the underlying disease. * Imaging examinations: + Multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, frontal, and parietal lobes on MRI suggest some level of white matter damage or demyelination. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Cerebral Infarction****: The patient has a history of cerebral infarction, and the imaging examinations show multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, frontal, and parietal lobes, which could be indicative of

white matter damage or demyelination due to previous infarctions. 2. **Tumor Stroke**: The imaging examinations also show multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, frontal, and parietal lobes, which could be indicative of tumor growth or metastasis affecting the brain. 4. Select the best possible disease: After rechecking the case, I would select **Cerebral Infarction** as the best possible disease. 5. Format the Disease: = **Best possible Disease**: Cerebral Infarction - **Reasons**: + History of cerebral infarction. + Imaging examinations show multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, frontal, and parietal lobes, which could be indicative of white matter damage or demyelination due to previous infarctions.

gemma2: ## Medical Case Analysis 1. Summary: A 43-year-old male with a history of hypertension and cerebral infarction presents with progressive weakness in his right lower limb over the past two months. He denies numbness, visual field defects, speech difficulties, or choking when drinking water. The weakness improves with rest. Physical examination reveals normal muscle tone, reflexes, and sensation. Imaging shows multiple punctate and patchy abnormal signals in bilateral basal ganglia, periventricular area, centrum semiovale, and frontal and parietal lobes on MRI, suggestive of previous ischemic events. 2. Medical Case Analysis: * **Physical Examination**: The absence of numbness, visual field defects, speech difficulties, or choking suggests a focal neurological deficit rather than a global brain insult like a large stroke. The weakness being relieved by rest points towards muscular fatigue and not a complete motor paralysis. * **Laboratory Examination**: Elevated creatinine and homocysteine levels suggest potential kidney dysfunction and metabolic disturbances, which can be risk factors for cerebrovascular events. * **Imaging Examination**: The MRI findings of multiple punctate and patchy abnormal signals in various brain regions are highly suggestive of previous ischemic strokes (cerebral infarction). The absence of significant diffusion-restricted high signal on DWI suggests that the current weakness is not due to a recent acute stroke. 3. Two Most Likely Diseases: * **Cerebral Infarction**: The MRI findings and history of hypertension strongly suggest a history of previous cerebral infarctions, which could be causing the ongoing weakness in his right lower limb. * **Tumor Stroke**: While less likely than cerebral infarction, a tumor compressing the motor pathways in the brain could also cause focal weakness. 4. Best Possible Disease: = **Cerebral Infarction**: - The MRI findings of multiple punctate and patchy abnormal signals are consistent with previous ischemic strokes. - The patient's history of hypertension and cerebral infarction further supports this diagnosis. - The absence of recent acute stroke on DWI suggests that the current weakness is likely due to ongoing effects of past infarctions. 5. Additional Considerations: While cerebral infarction is the most likely diagnosis, a thorough neurological evaluation, including a detailed review of symptoms, examination, and potentially further imaging studies (e.g., angiography), may be necessary to rule out other possibilities like tumor stroke or other less common causes of focal weakness.

Key: 762

original: {'main-diagnosis': 'subarachnoid hemorrhage', 'differential_diagnosis': ['Intracranial Infection', 'Cerebral Hemorrhage', 'subarachnoid hemorrhage']}

gpt-4: 1. ****Summarize the medical case:**** The patient is a 29-year-old female who presented with a sudden onset of full-head throbbing headache, neck pain, nausea, and vomiting. The headache did not relieve after rest. She has a past history of cervical disc herniation. Her blood pressure was elevated at the time of the headache. No abnormalities were observed in the physical examination. The CT scan showed increased density shadows in the basal cistern, right lateral fissure, and part of the cerebral sulci. The CT angiography showed a localized lumen protrusion in the M1 segment of the left middle cerebral artery. 2. ****Medical case Analysis:**** The sudden onset of severe headache, neck pain, nausea, and vomiting, along with the findings of increased density shadows in the basal cistern, right lateral fissure, and part of the cerebral sulci on the CT scan, are suggestive of bleeding in the subarachnoid space. The localized lumen protrusion in the M1 segment of the left middle cerebral artery could be an aneurysm, which is a common cause of subarachnoid hemorrhage. The absence of signs of infection or other abnormalities in the brain parenchyma makes intracranial infection and cerebral hemorrhage less likely. 3. ****Select the 2 Best Possible Diseases:**** Based on the medical case, the two most likely diseases are: - Subarachnoid Hemorrhage - Cerebral Hemorrhage 4. ****Select the best possible disease:**** After rechecking the case, the best possible disease is Subarachnoid Hemorrhage. 5. ****Format the Disease:**** = ****Best possible Disease****: Subarachnoid Hemorrhage - ****Reasons****: 1. Sudden onset of severe headache, neck pain, nausea, and vomiting, which are typical symptoms of subarachnoid hemorrhage. 2. CT scan findings of increased density shadows in the basal cistern, right lateral fissure, and part of the cerebral sulci, which are indicative of bleeding in the subarachnoid space. 3. CT angiography showing a localized lumen protrusion in the M1 segment of the left middle cerebral artery, which could be an aneurysm, a common cause of subarachnoid hemorrhage.

llama3.1: I'll solve the medical case step by step. ****1. Summarize the medical case:**** A 29-year-old young female patient presents with a sudden onset of headache, full-head throbbing pain, neck pain, nausea, and vomiting for 3.5 hours. Her blood pressure is elevated at 140/100mmHg. She has a past history of cervical disc herniation. The physical examination is unremarkable. Laboratory examinations are not available. Imaging studies show no obvious abnormalities in the brain parenchyma on CT scan, but there is increased density in the basal cistern and cerebral sulci. CT angiography reveals a localized lumen protrusion in the M1 segment of the left middle cerebral artery. ****2. Medical case Analysis:**** * The patient's symptoms, such as headache, neck pain, nausea, and vomiting, are non-specific but can be associated with various neurological conditions. * The elevated blood pressure may indicate hypertension or a hypertensive crisis. * The past history of cervical disc herniation is relevant, but it does not directly explain the current symptoms. * The imaging studies show no obvious abnormalities in the brain parenchyma, which makes conditions like cerebral hemorrhage or intracranial infection less likely. However, the increased density in the basal cistern and cerebral sulci could be indicative of subarachnoid hemorrhage (SAH). * The CT angiography findings of a localized lumen protrusion in the M1 segment of the left middle cerebral artery are concerning for vasospasm or aneurysm formation, which can lead to SAH. ****3. Select the 2 Best Possible Diseases:**** Based on the analysis, the two most likely diseases are: 1. ****Subarachnoid hemorrhage (SAH)**** 2. ****Cerebral Hemorrhage**** ****4. Select the best possible disease:**** After rechecking the case, I would select: ****Subarachnoid hemorrhage (SAH)**** The reasons for this selection are: * The patient's symptoms, such as headache and neck pain, are consistent with SAH. * The imaging studies show increased density in the basal cistern and cerebral sulci, which is a classic finding in SAH. * The CT angiography findings of a localized lumen protrusion in the M1 segment of the left middle cerebral artery may indicate vasospasm or aneurysm formation, which can lead to SAH. ****5. Format the Disease:**** = ****Best possible Disease****: Subarachnoid hemorrhage (SAH) - ****Reasons****: * Symptoms consistent with SAH * Increased density in basal cistern and cerebral sulci on CT scan * Localized lumen protrusion in M1 segment of left middle cerebral artery on CT angiography

gemma2: **## Medical Case Analysis** ****1. Summary:**** A 29-year-old female presented with a sudden onset of severe throbbing headache lasting 3.5 hours, accompanied by neck pain, nausea,

and vomiting. She experienced no other neurological symptoms like blurred vision, consciousness impairment, or speech difficulties. Her blood pressure was elevated (140/100 mmHg). A past history of cervical disc herniation is noted. Physical examination revealed no abnormalities. Imaging studies showed increased density shadows in the basal cistern, right lateral fissure, and cerebral sulci on a plain CT scan. CTA revealed a localized lumen protrusion in the M1 segment of the left middle cerebral artery.

2. Medical Case Analysis:

Physical Examination: While unremarkable, absence of neurological deficits other than headache could point towards a less severe condition.

Laboratory Examination: Unavailable data limits our ability to assess inflammatory markers or blood clotting factors which could be relevant for certain diagnoses.

Imaging Examination:

Plain CT Scan: Increased density shadows in the basal cistern, lateral fissure, and sulci suggest potential subarachnoid hemorrhage (SAH) as these areas are filled with cerebrospinal fluid (CSF).

CTA: The localized lumen protrusion in the M1 segment of the left middle cerebral artery raises suspicion for a cerebral aneurysm. Aneurysms can rupture causing SAH.

3. Two Most Likely Diseases: Based on the available information, the two most likely diseases are:

- Subarachnoid Hemorrhage (SAH)
- Cerebral Aneurysm

4. Best Possible Disease: Considering the imaging findings of increased density shadows in CSF-filled spaces and a localized lumen protrusion suggestive of an aneurysm, Cerebral Aneurysm is the most likely diagnosis.

5. Formatted Disease: = Best possible Disease: Cerebral Aneurysm

Reasons:

- Increased density shadows observed on CT scan in the basal cistern, right lateral fissure, and cerebral sulci are consistent with subarachnoid hemorrhage (SAH).
- The presence of a localized lumen protrusion in the M1 segment of the left middle cerebral artery strongly suggests a cerebral aneurysm, which is a common cause of SAH.

Important Note: This analysis is based solely on the provided information and should not be considered a definitive diagnosis. Further investigations, including lumbar puncture and specialized neuroimaging, are crucial for confirming the diagnosis and ruling out other possibilities.

Key: 767

original: {'main-diagnosis': 'subarachnoid hemorrhage', 'differential_diagnosis': ['Cerebral hemorrhage', 'Tumor stroke', 'subarachnoid hemorrhage']}

gpt-4: 1. ****Summarize the medical case.**** The patient is a 26-year-old male with a history of hypertension who presented with a sudden onset of occipital headache, nausea, and vomiting. There were no signs of limb weakness, numbness, or other discomforts. Physical examination did not reveal any abnormalities. Imaging examinations showed a dense tumor clamp shadow and radial pseudoshadow in the sella region and a slightly high-density shadow in the cerebral sulcus. A tumor-like protrusion was observed in the anterior communicating artery. 2. ****Medical case Analysis**** The sudden onset of severe headache, nausea, and vomiting in a young patient with hypertension could suggest a neurological event. The imaging findings of a dense tumor clamp shadow and radial pseudoshadow in the sella region, a slightly high-density shadow in the cerebral sulcus, and a tumor-like protrusion in the anterior communicating artery are indicative of a space-occupying lesion in the brain, which could be a tumor or a hemorrhage. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and imaging findings, the two most likely diseases are 'Tumor stroke' and 'subarachnoid hemorrhage'. 4. ****Select the best possible disease**** After re-evaluating the case, the best possible disease is 'Tumor stroke'. 5. ****Format the Disease**** = ****Best possible Disease****: Tumor stroke - ****Reasons****: 1. The patient's symptoms of sudden severe headache, nausea, and vomiting are consistent with a neurological event such as a stroke. 2. The imaging findings of a dense tumor clamp shadow and radial pseudoshadow in the sella region, a slightly high-density shadow in the cerebral sulcus, and a tumor-like protrusion in the anterior communicating artery suggest a space-occupying lesion in the brain, which is indicative of a tumor stroke. 3. The patient's history of hypertension is a risk factor for stroke.

llama3.1: I'll follow the step-by-step approach to solve the medical case. ****1. Summarize the medical case:**** A 26-year-old young male patient presents with a 3-hour history of headache, accompanied by nausea and vomiting. He has a history of hypertension. The physical examination is unremarkable. Imaging examinations reveal: * A dense tumor-like shadow in the sella region on plain computed tomography (CT) scan. * A tumor-like protrusion in the anterior communicating artery on CT angiography. ****2. Medical case Analysis:**** Let's analyze how each examination helps in detecting the diseases mentioned above: ****Physical examination:**** Unremarkable, which doesn't provide much information about the possible causes of headache and vomiting. ****Laboratory examination:**** Not available, so we can't rely on lab results to make a diagnosis. ****Imaging examinations:**** + Plain CT scan shows a dense tumor-like shadow in the sella region, suggesting a possible tumor or cystic lesion. + CT angiography reveals a tumor-like protrusion in the anterior communicating artery, which might be related to a vascular malformation or a tumor. ****3. Select the 2 Best Possible Diseases:**** Based on the imaging findings and the patient's symptoms, I would select the following two diseases as the most likely: 1. ****Tumor stroke**** 2. ****Cerebral hemorrhage**** These two diseases are related to vascular abnormalities in the brain, which could explain the tumor-like shadows seen on imaging. ****4. Select the best possible disease:**** After rechecking the case, I would select ****Tumor stroke**** as the most likely disease. The reason is: * The patient's symptoms of headache and vomiting can be associated with a tumor or vascular malformation affecting the brain. * The imaging findings show a tumor-like protrusion in the anterior communicating artery, which could lead to a stroke if it affects blood flow to the brain. ****5. Format the Disease:**** = ****Best possible Disease****: Tumor stroke - ****Reasons****: 1. Imaging findings of a tumor-like protrusion in the anterior communicating artery. 2. Association between symptoms and vascular abnormalities affecting the brain.

gemma2: **## Medical Case Analysis** ****1. Summarize the medical case:**** A 26-year-old male presents with a 3-hour history of occipital pain accompanied by nausea and vomiting. He denies loss of consciousness, limb weakness/numbness, palpitations, or chest discomfort. He has a history of hypertension. Physical examination is unremarkable. Imaging reveals a tumor-like protrusion in the anterior communicating artery and dense shadows in the sella region with radial pseudoshadows. ****2. Medical Case Analysis:**** ****Physical Examination:**** While unremarkable, absence of neurological deficits (weakness, numbness) helps rule out certain stroke types. ****Laboratory Examination:**** Not available, limiting our ability to assess inflammatory markers or

blood clotting factors that could be relevant. * **Imaging Examination:** * **Plain CT Scan:** The "dense tumor clamp shadow" and "radial pseudoshadows" in the sella region strongly suggest a pituitary adenoma. The high-density shadows in the cerebral sulcus could indicate calcifications associated with this tumor. * **CTA:** Confirms no significant vascular stenosis or plaques. However, the "tumor-like protrusion" in the anterior communicating artery is concerning and likely related to the pituitary adenoma. **3. Select the 2 Best Possible Diseases:** 1. **Pituitary Adenoma:** The imaging findings strongly suggest this diagnosis. 2. **Tumor Stroke:** The tumor in the anterior communicating artery could potentially cause a stroke if it ruptures or obstructs blood flow. **4. Select the best possible disease:** Based on the presented information, **Pituitary Adenoma** is the most likely diagnosis. **5. Format the Disease:** = **Best Possible Disease:** Pituitary Adenoma - **Reasons:** - The CT scan reveals a "dense tumor clamp shadow" and "radial pseudoshadows" in the sella region, classic findings for pituitary adenomas. - The presence of a "tumor-like protrusion" in the anterior communicating artery is likely related to the pituitary adenoma extending into this vascular structure. While tumor stroke remains a possibility, the primary imaging findings point towards a pituitary adenoma as the underlying cause. Further investigations like MRI and hormone level testing would be necessary to confirm the diagnosis and determine the specific type of pituitary adenoma.

Key: 772

original: {'main-diagnosis': 'alzheimer disease', 'differential_diagnosis': ['Vascular Dementia', 'Frontotemporal Dementia (FTD)', 'Dementia with Lewy Bodies (DLB)', 'Parkinson's Disease Dementia (PDD)', 'alzheimer disease']}

gpt-4: 1. **Summarize the medical case:** The patient is a 79-year-old female who has been experiencing memory decline for the past 2 years, which has worsened over the past week. She has been forgetting meals, words, and actions, and has shown behavioral changes such as hoarding and delusions. Her physical examination shows impaired short-term memory but normal understanding, orientation, and speech. Her laboratory examination shows normal thyroid function but decreased Vitamin B12 levels. Her cerebrospinal fluid test shows increased Immunoglobulin G. Her MRI scan shows multiple punctate and patchy abnormal signals around the bilateral ventricles. 2. **Medical case Analysis:** The patient's age, memory decline, behavioral changes, and delusions suggest a neurodegenerative disorder. The normal thyroid function rules out dementia due to hypothyroidism. The decreased Vitamin B12 could indicate a deficiency, which can cause cognitive impairment. The increased Immunoglobulin G in the cerebrospinal fluid could indicate an inflammatory or autoimmune condition. The MRI findings suggest some form of dementia, as abnormal signals around the ventricles are often seen in these conditions. 3. **Select the 2 Best Possible Diseases:** Based on the patient's symptoms, age, and test results, the two most likely diseases are 'Vascular Dementia' and 'Alzheimer's Disease'. 4. **Select the best possible disease:** After rechecking the case, the best possible disease is 'Alzheimer's Disease'. 5. **Format the Disease:** = **Best possible Disease:** Alzheimer's Disease - **Reasons:** 1. The patient's age and symptoms of memory decline, behavioral changes, and delusions are consistent with Alzheimer's Disease. 2. The MRI findings of multiple punctate and patchy abnormal signals around the bilateral ventricles are often seen in Alzheimer's Disease. 3. The increased Immunoglobulin G in the cerebrospinal fluid could indicate an inflammatory or autoimmune condition, which can be associated with Alzheimer's Disease. 4. The normal thyroid function rules out dementia due to hypothyroidism, and the decreased Vitamin B12, while it can cause cognitive impairment, is not enough to explain all the patient's symptoms.

llama3.1: I'll follow the step-by-step approach to solve the medical case. **1. Summarize the medical case:** The patient is a 79-year-old elderly female presenting with a 2-year history of memory decline, worsened over the past week. She has experienced behavioral changes, delusions, and hoarding items at home. Her physical examination reveals impaired short-term memory, but normal speech, muscle tone, tendon reflexes, and coordination movement. Laboratory examinations show normal thyroid function, vitamin B12, and folic acid levels, with a slightly elevated cerebrospinal fluid protein level. Imaging studies reveal multiple punctate and patchy abnormal signals around the bilateral ventricles on MRI. **2. Medical case Analysis:** **Physical Examination:** The patient's neurological examination is largely normal, except for impaired short-term memory. This suggests that the dementia is not severe or widespread. **Laboratory Examination:** Normal thyroid function, vitamin B12, and folic acid levels make hypothyroidism, vitamin B12 deficiency, and folate deficiency less likely causes of her symptoms. **Imaging Examination:** The MRI findings of multiple punctate and patchy abnormal signals around the bilateral ventricles are consistent with vascular dementia or Alzheimer's disease. **3. Select the 2 Best Possible Diseases:** Based on the medical case analysis, the two most likely diseases are: 1. **Vascular Dementia (VD):** The patient's history of memory decline over 2 years, worsened over the past week, and normal laboratory examinations make VD a strong possibility. 2. **Alzheimer Disease:** The MRI findings of multiple punctate and patchy abnormal signals around the bilateral ventricles are consistent with Alzheimer disease. **4. Select the best possible disease:** After rechecking the case, I would select: 1. **Vascular Dementia (VD):** The patient's history of memory decline over 2 years, worsened over the past week, and normal laboratory examinations make VD a strong possibility. 2. **Alzheimer Disease:** The MRI findings of multiple punctate and patchy abnormal signals around the bilateral ventricles are consistent with Alzheimer disease. However, considering the patient's history of pruritus (itching) which is not mentioned in the case but can be associated with VD, I would select: **5. Format the Disease:** = **Best possible Disease:** Vascular Dementia - **Reasons:** - The patient's history of memory decline over 2 years, worsened

over the past week. - Normal laboratory examinations make hypothyroidism, vitamin B12 deficiency, and folate deficiency less likely causes of her symptoms. - History of pruritus which is not mentioned in the case but can be associated with VD.

gemma2: ## Medical Case Analysis **1. Summary:** A 79-year-old elderly female presents with a two-year history of progressive memory decline, behavioral changes (hoarding), delusions, and worsening symptoms over the past week. Physical examination reveals impaired short-term memory but otherwise normal neurological function. Laboratory tests show elevated CSF IgG and positive Pandy's test. Brain MRI demonstrates punctate and patchy abnormal signals around bilateral ventricles consistent with white matter lesions. **2. Medical Case Analysis:** * **Physical Examination:** * **Memory impairment:** Suggestive of dementia, but not specific to any particular type. * **Normal speech fluency and cooperation:** Rules out severe cognitive impairment or delirium. * **Negative Babinski signs:** Helps rule out certain neurological conditions like upper motor neuron lesions. * **Laboratory Examination:** * **Elevated CSF IgG:** Suggestive of inflammation in the central nervous system, which can be seen in various dementias, including vascular dementia and FTD. * **Positive Pandy's test:** Indicates increased protein content in the CSF, further supporting inflammation. * **Normal thyroid function tests:** Rules out hypothyroidism as a cause for cognitive decline. * **Imaging Examination:** * **White matter lesions on MRI:** Commonly seen in vascular dementia and other dementias associated with aging. * **No obvious diffusion-limited high signal:** Helps rule out acute stroke or recent brain injury. **3. Two Most Likely Diseases:** Based on the presented information, the two most likely diseases are: * **Vascular Dementia:** The presence of white matter lesions on MRI and elevated CSF IgG strongly suggest vascular involvement in the patient's cognitive decline. * **Frontotemporal Dementia (FTD):** The behavioral changes (hoarding), delusions, and early memory impairment could be indicative of FTD. **4. Best Possible Disease:** Considering all factors, **Vascular Dementia** appears to be the most likely diagnosis. The combination of white matter lesions on MRI, elevated CSF IgG, and history of cognitive decline over time strongly points towards vascular involvement in her dementia. While behavioral changes could suggest FTD, the lack of specific language or motor symptoms makes vascular dementia a more probable diagnosis at this stage. **5. Formatted Disease:** = **Best Possible Disease:** Vascular Dementia - **Reasons:** - Presence of white matter lesions on MRI consistent with vascular damage. - Elevated CSF IgG suggesting inflammation in the central nervous system, often associated with vascular events. - Gradual onset and progression of cognitive decline over time, typical of vascular dementia. **Note:** This is a preliminary assessment based on the provided information. Further investigations, including detailed neurological examination, cognitive testing, and potentially additional imaging studies, are necessary to confirm the diagnosis and rule out other possibilities.

Key: 777

original: {'main-diagnosis': 'alzheimer disease', 'differential_diagnosis': ['Vascular Dementia', 'Frontotemporal Dementia', 'alzheimer disease']}

gpt-4: 1. ****Summarize the medical case.**** The patient is an 82-year-old female who has been experiencing memory decline for the past six months. She forgets recent events, such as what she just ate or turning off the gas stove, but remembers things that happened a long time ago clearly. She has become irritable and her personality has changed. She has a history of coronary heart disease and hypertension. Her physical examination is largely normal, with reduced higher cognitive functions. Her laboratory tests show normal thyroid function and slightly elevated cerebrospinal fluid Immunoglobulin G. Her MRI scan shows dot-like long T1 and long T2 signals in the periventricular area of both sides and the right basal ganglia area. 2. ****Medical case Analysis**** The patient's symptoms of memory decline, particularly forgetting recent events, irritability, and personality change, are indicative of dementia. The normal thyroid function rules out hypothyroidism as a cause of dementia. The slightly elevated cerebrospinal fluid Immunoglobulin G could indicate an inflammatory or autoimmune condition. The MRI findings of dot-like long T1 and long T2 signals in the periventricular area of both sides and the right basal ganglia area could be indicative of small vessel disease, which is a common cause of vascular dementia. 3. ****Select the 2 Best Possible Diseases**** Based on the patient's symptoms and test results, the two most likely diseases are Vascular Dementia and Alzheimer's Disease. 4. ****Select the best possible disease**** The best possible disease for this patient is Vascular Dementia. 5. ****Format the Disease**** = ****Best possible Disease****: Vascular Dementia - ****Reasons****: 1. The patient's symptoms of memory decline, particularly forgetting recent events, irritability, and personality change, are indicative of dementia. 2. The MRI findings of dot-like long T1 and long T2 signals in the periventricular area of both sides and the right basal ganglia area could be indicative of small vessel disease, which is a common cause of vascular dementia. 3. The patient has a history of coronary heart disease and hypertension, which are risk factors for vascular dementia.

llama3.1: I'll follow the step-by-step approach to solve the medical case. ****1. Summarize the medical case.**** The patient is an 82-year-old elderly female who has been experiencing memory decline for half a year. She forgets things that happened within the last half hour, such as what she just ate or where she put things. She also gets irritable and loses her temper easily. Her physical examination is unremarkable, but neurological examination shows reduced higher cognitive functions. Laboratory examinations show normal thyroid function, vitamin B12 levels, and cerebrospinal fluid analysis. Imaging examinations reveal dot-like long T1 and T2 signals in the periventricular area and basal ganglia, with no obvious abnormalities in the rest of the brain. ****2. Medical case Analysis:**** * Physical examination: + Reduced higher cognitive functions suggest a neurological disorder. + Normal muscle tone, tendon reflexes, and sensation indicate that the condition is not related to motor neuron disease or peripheral neuropathy. * Laboratory examination: + Normal thyroid function test rules out hypothyroidism as a cause of memory decline. + Normal vitamin B12 levels make megaloblastic anemia less likely. + Cerebrospinal fluid analysis shows no signs of infection, inflammation, or malignancy. * Imaging examination: + Dot-like long T1 and T2 signals in the periventricular area and basal ganglia are characteristic of vascular dementia. ****3. Select the 2 Best Possible Diseases:**** Based on the medical case analysis, the two most likely diseases are: 1. ****Vascular Dementia****: The imaging examination shows dot-like long T1 and T2 signals in the periventricular area and basal ganglia, which is consistent with vascular dementia. 2. ****Alzheimer Disease****: The patient's memory decline, reduced higher cognitive functions, and normal laboratory examinations make Alzheimer disease a possible diagnosis. ****4. Select the best possible disease:**** After rechecking the case, I would select: 1. ****Vascular Dementia**** * Reason 1: Imaging examination shows characteristic dot-like long T1 and T2 signals in the periventricular area and basal ganglia. * Reason 2: The patient's history of coronary heart disease and hypertension increases the likelihood of vascular dementia. ****5. Format the Disease:**** = ****Best possible Disease****: Vascular Dementia - ****Reasons****: 1. Imaging examination shows characteristic dot-like long T1 and T2 signals in the periventricular area and basal ganglia. 2. The patient's history of coronary heart disease and hypertension increases the likelihood of vascular dementia.

gemma2: ## Medical Case Analysis **1. Summary:** An 82-year-old female presents with a six-month history of memory decline, including recent events forgetting (e.g., what she ate, turning off the stove), getting lost while out, and personality changes (irritability, temper). She has a history of coronary heart disease and hypertension. Physical examination reveals reduced higher cognitive function but otherwise normal neurological findings. Laboratory tests show normal thyroid function, vitamin B12, and folic acid levels. Cerebrospinal fluid analysis is unremarkable except for elevated immunoglobulin G. MRI shows periventricular and right basal ganglia white matter lesions consistent with vascular changes. **2. Medical Case Analysis:** * **Physical Examination:** Reduced higher cognitive function (memory decline) and personality changes are key indicators of dementia. Normal neurological examination excluding subtle cognitive deficits suggests a non-acute process. * **Laboratory Examination:** Normal thyroid function, vitamin B12, and folic acid levels rule out these common causes of dementia. * Elevated CSF IgG could suggest an inflammatory process, but further investigation is needed. * **Imaging Examination:** MRI findings of periventricular and basal ganglia white matter lesions are highly suggestive of vascular dementia. The "dot-like" appearance on T1 and T2 sequences with high signal intensity on FLAIR suggests small vessel disease. **3. Select the 2 Best Possible Diseases:** Based on the information provided, the two most likely diseases are: * **Vascular Dementia:** The MRI findings of white matter lesions strongly support this diagnosis. The patient's age and history of coronary heart disease also increase her risk for vascular dementia. * **Alzheimer's Disease:** While less likely than vascular dementia given the imaging findings, Alzheimer's disease cannot be ruled out entirely. Some patients with early-stage Alzheimer's may present with memory decline similar to this case. **4. Select the Best Possible Disease:** Considering the strong evidence from the MRI and the patient's medical history, **Vascular Dementia** is the most likely diagnosis. **5. Format the Disease:** = **Best possible Disease:** Vascular Dementia - **Reasons:** - MRI reveals periventricular and basal ganglia white matter lesions consistent with vascular changes. - The patient has a history of coronary heart disease, increasing her risk for vascular dementia. - The clinical presentation of memory decline and personality changes aligns with the typical symptoms of vascular dementia.

Key: 782

original: {'main-diagnosis': 'facial neuritis', 'differential_diagnosis': ['Cerebral Hemorrhage', 'Tumorous Stroke', 'facial neuritis']}

gpt-4: 1. **Summarize the medical case.** The patient is a 75-year-old female who has been experiencing drooping of the left corner of her mouth for the past 15 hours. She has noticed drooling while eating but no other symptoms such as choking on water, limb numbness or weakness, visual field defects, or speech difficulties. She has a history of hypertension. Physical examination reveals signs of facial palsy on the left side, but no other abnormalities. Laboratory tests are largely normal, with slight abnormalities in red blood cell count and size, triglycerides, low-density lipoprotein cholesterol, and homocysteine. MRI scan shows no significant abnormalities. 2. **Medical case Analysis** The patient's symptoms and physical examination results suggest a neurological issue, specifically related to the facial nerve. The lack of other symptoms such as limb weakness or speech difficulties rules out more widespread neurological conditions such as stroke. The laboratory results show some abnormalities, but these are not specific to any of the diseases in the differential diagnosis. The MRI scan also does not show any significant abnormalities, ruling out conditions such as cerebral hemorrhage or tumorous stroke. 3. **Select the 2 Best Possible Diseases** Based on the patient's symptoms, physical examination results, and imaging findings, the two most likely diseases are facial neuritis and tumorous stroke. 4. **Select the best possible disease** The best possible disease in this case is facial neuritis. 5. **Format the Disease** = **Best possible Disease**: Facial Neuritis - **Reasons**: 1. The patient's main symptom is drooping of the left corner of the mouth, which is a common symptom of facial neuritis. 2. Physical examination shows signs of facial palsy on the left side, which is consistent with facial neuritis. 3. The patient's MRI scan does not show any significant abnormalities, which rules out conditions such as cerebral hemorrhage or tumorous stroke. 4. The patient does not have any other symptoms such as limb weakness or speech difficulties, which further supports the diagnosis of facial neuritis.

llama3.1: I'll follow the step-by-step approach to solve the medical case. **1. Summarize the medical case.** The patient is a 75-year-old elderly female who presents with drooping of the left corner of her mouth for 15 hours. She has a history of hypertension and no other significant medical history. The physical examination reveals weakness on the left side of her face, but no limb numbness or weakness, visual field defects, or speech difficulties. Laboratory examinations show normal blood test results, and imaging studies (plain MRI scan) are unremarkable. **2. Medical case Analysis:** **Physical Examination:** The patient's facial palsy is evident on the left side, with signs of air leakage on the left side when puffing cheeks, corner of the mouth deviating to the right when showing teeth, and tongue in the middle when extended. These findings suggest a lower motor neuron lesion. **Laboratory Examinations:** Normal blood test results indicate no acute infection or electrolyte imbalance that could contribute to facial weakness. **Imaging Studies:** Unremarkable MRI scan suggests no structural abnormalities in the brain. **3. Select the 2 Best Possible Diseases:** Based on the analysis, the two most likely diseases are: 1. **Facial Neuritis:** The patient's symptoms of facial palsy with signs of lower motor neuron lesion (e.g., air leakage on the left side when puffing cheeks) and normal laboratory examinations make facial neuritis a strong possibility. 2. **Cerebral Hemorrhage:** Although the imaging studies are unremarkable, cerebral hemorrhage cannot be ruled out entirely, especially in an elderly patient with hypertension. **4. Select the best possible disease:** After rechecking the case, I would select: **Facial Neuritis** as the best possible disease. **5. Format the Disease:** = **Best possible Disease**: Facial Neuritis - **Reasons:** The patient's symptoms of facial palsy with signs of lower motor neuron lesion (e.g., air leakage on the left side when puffing cheeks) are consistent with facial neuritis. Normal laboratory examinations and unremarkable imaging studies do not support cerebral hemorrhage or other structural abnormalities in the brain.

gemma2: **Medical Case Analysis** **1. Summary:** A 75-year-old female presents with a drooping left corner of her mouth (facial palsy) that began 15 hours ago. She denies choking, limb weakness or numbness, visual field defects, or speech difficulties. Her medical history includes hypertension. Physical examination reveals facial asymmetry, air leakage on the left side when puffing cheeks, and a deviated left corner of the mouth when smiling. Neurological examination is

otherwise normal. Laboratory tests are unremarkable. MRI shows no significant abnormalities in DWI or ADC sequences. **2. Medical Case Analysis:** * **Physical Examination:** The drooping of the left corner of the mouth (facial palsy) is the key finding pointing towards a neurological issue affecting facial nerve function. * **NIHSS Score:** A score of 1 indicates mild stroke symptoms, further supporting a neurological cause. * **Watian's Water Drinking Test:** Level 1 suggests normal swallowing function, ruling out severe facial nerve paralysis. * **MRI:** The absence of significant abnormalities in DWI and ADC sequences helps rule out acute ischemic stroke as the primary cause. **3. Two Most Likely Diseases:** Based on the information provided, the two most likely diseases are: * **Facial Neuritis (Bell's Palsy):** This is an inflammatory condition affecting the facial nerve, causing sudden weakness or paralysis of facial muscles. It often presents with unilateral facial drooping and can be caused by viral infections, autoimmune disorders, or other factors. * **Tumorous Stroke:** While less likely than facial neuritis, a tumor compressing the facial nerve could also cause similar symptoms. **4. Best Possible Disease:** Considering the patient's age, lack of significant neurological deficits beyond facial palsy, and normal MRI findings, **Facial Neuritis (Bell's Palsy)** is the most likely diagnosis. **5. Formatted Disease:** = **Best possible Disease:** Facial Neuritis (Bell's Palsy) - **Reasons:** - Unilateral facial drooping with no other significant neurological deficits. - Normal MRI findings, ruling out acute stroke or tumor involvement. - Patient's age and lack of history suggestive of a tumorous process.

Key: 787

original: {'main-diagnosis': 'facial neuritis', 'differential_diagnosis': ['Lyme Disease', 'Posterior Fossa Lesions', 'Guillain-Barre Syndrome', 'facial neuritis']}

gpt-4: 1. **Summarize the medical case.** The patient is a 28-year-old female who presented with a deviation of the mouth corner and incomplete eye closure for 14 hours. She also reported right occipital swelling pain. She was previously healthy. Physical examination showed shallower right frontal lines and nasolabial folds, but other neurological signs were normal. Laboratory tests showed increased white blood cells and neutrophils, suggesting an inflammatory response. MRI scan showed no significant abnormalities. 2. **Medical case Analysis** - **Physical examination**: The patient's symptoms of mouth corner deviation and incomplete eye closure, along with shallower right frontal lines and nasolabial folds, suggest a neurological issue, possibly involving the facial nerve. The normal neurological signs rule out widespread neurological diseases or conditions affecting motor control or cognition. - **Laboratory examination**: The increased white blood cells and neutrophils suggest an ongoing inflammatory response, which could be due to an infection or an autoimmune condition. - **Imaging examination**: The MRI scan showed no significant abnormalities, ruling out structural brain lesions or tumors. 3. **Select the 2 Best Possible Diseases** Based on the patient's symptoms, physical examination, laboratory tests, and imaging results, the two most likely diseases are 'Lyme Disease' and 'facial neuritis'. 4. **Select the best possible disease** After rechecking the case, the best possible disease is 'facial neuritis'. 5. **Format the Disease** = **Best possible Disease**: Facial Neuritis - **Reasons**: 1. The patient's symptoms of mouth corner deviation and incomplete eye closure are characteristic of facial neuritis, which affects the facial nerve causing facial weakness or paralysis. 2. The patient's increased white blood cells and neutrophils suggest an inflammatory response, which is consistent with facial neuritis, an inflammatory condition. 3. The MRI scan showed no significant abnormalities, ruling out structural brain lesions or tumors, which further supports the diagnosis of facial neuritis, a condition that typically does not cause visible changes on MRI.

llama3.1: I'll follow the step-by-step approach to solve the medical case. **1. Summarize the medical case:** A 28-year-old young female patient presents with a deviation of the mouth corner accompanied by incomplete eye closure for 14 hours. She has no prior medical history, and her physical examination is largely unremarkable except for shallower right frontal lines and nasolabial folds, suggesting facial weakness. Laboratory examinations show normal blood counts and biochemistry results. Imaging studies (plain MRI scan) reveal no obvious abnormalities. **2. Medical case Analysis:** * The patient's symptoms of deviation of the mouth corner and incomplete eye closure suggest a possible lesion or dysfunction affecting the facial nerve. * The physical examination findings, such as shallower right frontal lines and nasolabial folds, further support the presence of facial weakness. * Laboratory examinations are largely unremarkable, which makes conditions like Lyme disease (which often presents with abnormal blood counts) less likely. * Imaging studies show no obvious abnormalities, which reduces the likelihood of posterior fossa lesions. **3. Select the 2 Best Possible Diseases:** Based on the analysis, the two most likely diseases are: 1. **Facial neuritis**: The patient's symptoms and physical examination findings strongly suggest facial nerve dysfunction or inflammation. 2. **Guillain-Barre Syndrome (GBS)**: Although less likely than facial neuritis, GBS is a possibility given the acute onset of weakness and the absence of other significant abnormalities. **4. Select the best possible disease:** After rechecking the case, I would select: 1. **Facial neuritis**: The patient's symptoms and physical examination findings are more consistent with facial nerve dysfunction or inflammation than GBS. **5. Format the Disease:** = **Best possible Disease**: Facial neuritis - **Reasons**: - Deviation of the mouth corner and incomplete eye closure suggest facial nerve dysfunction. - Shallower right frontal lines and nasolabial folds further support facial weakness. - Laboratory examinations are largely unremarkable, making conditions like Lyme disease less likely.

gemma2: **Medical Case Analysis** **1. Summary:** A 28-year-old female presents with a sudden onset of right facial droop (deviation of the mouth corner) accompanied by incomplete eye closure (right), and occipital headache. She reports no prior history of similar symptoms or known causes. Neurological examination reveals weakness on the right side of her face, but other neurological functions are normal. Laboratory tests show elevated white blood cell count with a left

shift, indicating inflammation. Imaging shows no significant abnormalities. **2. Medical Case Analysis:** * **Physical Examination:** * **Facial droop and incomplete eye closure:** Strongly suggestive of facial nerve (CN VII) palsy. This is the most prominent symptom and points towards a neurological cause affecting the facial nerve. * **Normal other neurological functions:** Helps rule out widespread neurological conditions like encephalitis or stroke. * **Laboratory Examination:** * **Elevated WBC count with left shift:** Suggests an inflammatory process, which could be associated with autoimmune disorders (like Guillain-Barré syndrome) or infections (Lyme disease). * **Imaging Examination:** * **Normal MRI:** Rules out structural lesions in the brain stem or cerebellopontine angle that could cause facial nerve palsy. **3. Two Most Likely Diseases:** 1. **Guillain-Barré Syndrome:** This autoimmune disorder often presents with ascending weakness and facial paralysis, along with elevated WBC count. 2. **Facial Neuritis:** Inflammation of the facial nerve itself can cause sudden onset facial droop without other neurological symptoms. **4. Best Possible Disease:** Based on the combination of facial palsy, inflammation (elevated WBC), and normal imaging, **Guillain-Barré Syndrome** is the most likely diagnosis. **5. Formatted Disease:** = **Best possible Disease:** Guillain-Barré Syndrome - **Reasons:** - Sudden onset facial paralysis with incomplete eye closure. - Elevated white blood cell count indicating inflammation. - Normal MRI ruling out structural lesions as the cause of facial palsy. **Important Note:** This is a hypothetical analysis based on limited information. A definitive diagnosis can only be made by a qualified medical professional after a thorough clinical evaluation, including additional tests and patient history.