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| **Our Question** | **Our Answers** | **Our Reasoning** | **CGPT Answer** | **CGPT Reasoning** | **Malcolm’s comments** |
| 40 year old male with newly diagnosed moderate UC and articular extraintestinal manifestations | Infliximab  Tofacitinib | IFX is ideal choice as biologically naïve with EIM.  Do not use vedolizumab | Vedolizumab (5/5)  Ustekinumab (4/5) | Advantages: Vedolizumab is an effective option for moderate UC and has been shown to be superior in achieving clinical remission and endoscopic improvement in moderate to severe UC. It is also a good choice for patients who have not responded to or cannot tolerate TNF inhibitors.  - Disadvantages: The main disadvantage of Vedolizumab is that it may not be feasible due to payer preference. Additionally, it may not be as effective in patients with extraintestinal manifestations.  Advantages: Ustekinumab is also an effective option for moderate UC. It is particularly beneficial for patients with extraintestinal manifestations such as psoriasis or psoriatic arthritis.  - Disadvantages: The main disadvantage of Ustekinumab is that it may not be as effective as other treatments in inducing remission in UC. It may also not be feasible due to payer preference. | Wrong on both counts. Funny though, the reasoning seems to explain why VDZ and UST may not be so good. |
| 70 year old female with newly diagnosed severe UC | Ustekinumab or Vedolizumab | Given advanced age, IFX not preferred as first choice | Infliximab (5/5)  Vedolizumab (5/5) | Advantages: Infliximab has been shown to be effective in inducing and maintaining remission in patients with moderate to severe UC. It is also beneficial for patients with extraintestinal manifestations of UC.  - Disadvantages: Infliximab can cause serious side effects including infections, heart failure, and liver damage. It may also increase the risk of lymphoma and other cancers.  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and spares the rest of the body. This can result in fewer systemic side effects. It has been shown to be effective in inducing and maintaining remission in patients with moderate to severe UC.  - Disadvantages: Vedolizumab can cause side effects such as headache, joint pain, nausea, and fever. Serious side effects can include infections, liver damage, and allergic reactions. | Both are still acceptable, correct. |
| 35 year old male with known moderate UC with prior exposure to infliximab but has worsening colitis on endoscopy despite compliance | Tofacitinib or Ustekinumab | Testing 2nd line treatment to patients previously exposed to anti-TNFa | Ustekinumab (5/5)  Tofacitinib (2/5) Vedolizumab (3/5) | 1. Ustekinumab:  - Advantages: Ustekinumab has shown efficacy in inducing clinical remission in patients with prior exposure to TNF antagonists. It is also generally well-tolerated with a good safety profile.  - Disadvantages: It requires intravenous administration for the initial dose which can be inconvenient. There is also a risk of serious infections and it may not be as effective in patients who have failed multiple prior biologics.  2. Tofacitinib:  - Advantages: Tofacitinib is an oral medication which can be more convenient for patients. It has also shown efficacy in inducing clinical remission in patients with prior exposure to TNF antagonists.  - Disadvantages: Tofacitinib has been associated with an increased risk of herpes zoster infection. It may also increase the risk of cardiovascular events and malignancies.  3. Vedolizumab - This is an integrin receptor antagonist that is effective for UC.  Advantages:  - It provides an alternative mechanism of action targeting Î±4Î²7 integrin, which might be effective in patients with prior failure to anti-TNF therapy.  - It is generally well-tolerated with a good safety profile.  Disadvantages:  - It might not be as effective in patients with extraintestinal manifestations of UC.  - It requires intravenous administration which might be inconvenient for some patients. |  |
| 60 year old female with newly diagnosed moderate UC with a background of congestive cardiac failure | Ustekinumab or Vedolizumab | Testing contraindications to first line IFX TFC not recommended because of increased LDL-C and MACE risk | Vedolizumab (5/5) Ustekinumab (4/5) | 1. Vedolizumab:  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets inflammation in the gut and has less systemic side effects. This could be beneficial for a patient with congestive cardiac failure as it reduces the risk of exacerbating this condition. It has been shown to be effective in inducing and maintaining remission in moderate to severe UC.  - Disadvantages: Vedolizumab may take longer to show effects compared to other biologics. It also requires intravenous administration which might not be convenient for all patients.  2. Ustekinumab:  - Advantages: Ustekinumab has been shown to be effective in treating moderate to severe UC. It is administered subcutaneously after the initial intravenous dose, which could be more convenient for the patient.  - Disadvantages: Ustekinumab may have potential side effects including respiratory infections, which could be a concern in an elderly patient. It is also a relatively new drug for UC, so long-term effects are not as well known compared to other biologics. | Correct |
| 38 year old female with newly diagnosed moderate UC and psoriasis | Ustekinumab | Test treatment of specific EIM and IBD | Ustekinumab (5/5)  Infliximab (4/5) | Ustekinumab:  - Advantages: Effective in treating both UC and psoriasis, lower risk of serious infections compared to other biologics, convenient dosing schedule.  - Disadvantages: May not be as effective as other biologics for UC, potential for injection site reactions, risk of serious infections although lower.  Infliximab:  - Advantages: Proven effectiveness in treating moderate to severe UC, can induce and maintain remission, may work more quickly than other biologics.  - Disadvantages: Risk of serious infections, potential for infusion reactions, regular infusions required which may be inconvenient for some patients. | Correct, both UST and IFX are ideal for this. |
| 25 year old pregnant woman with severe distal ulcerative colitis. | Infliximab  Vedolizumab  Ustekinumab | Infliximab has best safety data in pregnancy (due to experience) | Infliximab (5/5)  Adalimumab (3/5)  Vedolizumab (2/5) | 1. Infliximab (Remicade)  Advantages: Infliximab is a TNF-alpha inhibitor that has been shown to be effective in treating moderate to severe ulcerative colitis. It can reduce inflammation and achieve remission in many patients. Infliximab has been widely studied and is generally well-tolerated.  Disadvantages: Infliximab can have side effects including risk of infection, allergic reactions, and potential complications for the baby. It should be used with caution in pregnant women and only if the potential benefit justifies the potential risk to the fetus.  2. Adalimumab:  Advantages:  - It is administered subcutaneously which can be done at home.  - It has been shown to induce and maintain remission in ulcerative colitis patients.  - It has been studied and found to be relatively safe during pregnancy.  Disadvantages:  - It may not work for everyone.  - It can cause side effects like infections, allergic reactions, headache, nausea.  3. Vedolizumab (Entyvio)  Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets inflammation in the gut, potentially reducing side effects elsewhere in the body. It has been shown to be effective in treating moderate to severe ulcerative colitis.  Disadvantages: Vedolizumab is a relatively new drug, so long-term safety data is not as robust as for some other drugs. It can have side effects including risk of infection, headache, joint pain, nausea, and fever. The effects of Vedolizumab on pregnant women and their babies are not well-studied, so it should be used with caution in pregnant women. |  |
| 56 year old man with moderate to severe ulcerative colitis and ankylosing spondylitis | Infliximab or Adalimumab | Dual indications | Infliximab (5/5) Adalimumab (5/5) | Infliximab:  - Advantages: Infliximab has been shown to be effective in inducing and maintaining remission in patients with moderate to severe ulcerative colitis. It is also effective in treating ankylosing spondylitis.  - Disadvantages: Infliximab can cause serious infections and diseases, including tuberculosis and hepatitis B. It can also cause allergic reactions, heart failure, liver problems, and lupus-like syndrome.  Adalimumab:  - Advantages: Adalimumab is also effective in treating both ulcerative colitis and ankylosing spondylitis. It can be self-administered as an injection under the skin.  - Disadvantages: Similar to Infliximab, Adalimumab can cause serious infections and diseases. It can also cause allergic reactions, heart failure, liver problems, and lupus-like syndrome. | Correct |
| 38 year old man with severe ulcerative colitis and has lost response to vedolizumab | Tofacitinib or ustekinumab | Biologic failure | Ustekinumab (5/5)  Tofacitinib (4/5) | 1. Ustekinumab: This drug has been ranked highest in patients with prior exposure to TNF antagonists for induction of remission and endoscopic improvement.  Advantages: Ustekinumab has shown high efficacy rates in inducing and maintaining clinical remission in patients with moderate to severe ulcerative colitis. It is also beneficial for patients who have had a prior failure with Anti-TNF agents.  Disadvantages: The drug may have potential side effects including serious infections, allergic reactions, and increased risk of certain types of cancer.  2. Tofacitinib: This is a small molecule drug that inhibits Janus kinases, enzymes that mediate the effects of inflammatory cytokines.  Advantages: Tofacitinib has been shown to be effective in inducing and maintaining remission in patients with moderate to severe ulcerative colitis. It is taken orally, which may be more convenient for some patients compared to injectable drugs.  Disadvantages: Tofacitinib can increase the risk of serious infections, malignancies, and cardiovascular events. It may also cause elevated cholesterol levels and liver enzyme elevations. | Correct |
| 28 year old woman who has severe extensive ulcerative colitis and has a history of lymphoma which was treated 4 years ago | Vedolizumab or ustekinumab | Anti-TNFs and JAK inhs have associations/concerns with malignancies | Vedolizumab (5/5) Ustekinumab (4/5) | 1. Vedolizumab:  - Advantages: Vedolizumab is a gut-selective immunosuppressant, which means it specifically targets the gut and has less systemic side effects. It has been shown to be effective in treating moderate to severe ulcerative colitis.  - Disadvantages: It may take several weeks to see the effects of Vedolizumab. Side effects can include headache, joint pain, nausea, and fever. Serious side effects can include infections and liver problems.  2. Ustekinumab:  - Advantages: Ustekinumab is another option that could be considered. It is typically used for patients who have not responded to or cannot tolerate other medications. It works by inhibiting a specific pathway of the immune system.  - Disadvantages: Potential side effects include upper respiratory infections, fatigue, and headache. It's also usually considered after other treatments have failed, so it may not be a first-line option. | Correct |
| 36 year old woman with moderate ulcerative colitis and multiple sclerosis. | Ozanimod or Etrasimod | Dual indications | Vedolizumab (5/5)  Ustekinumab (5/5) | Vedolizumab specifically targets the gut and has been shown to be effective in treating moderate to severe ulcerative colitis. It has a good safety profile and is less likely to cause systemic side effects. However, it may take longer to see the effects of the drug and it requires intravenous administration.  Ustekinumab is another option that could be considered. It is used in the treatment of multiple sclerosis as well as moderate to severe ulcerative colitis. It can be administered subcutaneously and may offer the convenience of home administration. However, it may have more systemic effects compared to Vedolizumab. | Wrong. Maybe the guidelines don’t have ozanimod or etraismod yet (not much experience) |
| 39 year old male with moderate to severe extensive ulcerative colitis who had malignant melanoma which was treated 3 years agp | Vedolizumab or ustekinumab | Anti-TNFs and JAK inhs have associations/concerns with malignancies | Vedolizumab (5/5)  Ustekinumab (4/5) | 1. Drug Name: Vedolizumab  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and has less systemic side effects. It has been shown to be effective in treating moderate to severe ulcerative colitis. It does not have a known increased risk of melanoma.  - Disadvantages: It may take several weeks to see the effects of vedolizumab. It also requires intravenous administration which can be inconvenient for some patients. Side effects can include headache, joint pain, nausea, and fever.  2. Drug Name: Ustekinumab  - Advantages: Ustekinumab is effective in treating moderate to severe ulcerative colitis. It works by inhibiting the activity of certain proteins that cause inflammation in the body. It is administered subcutaneously and can be given at home.  - Disadvantages: Ustekinumab may increase the risk of infections. There is also a potential risk of serious allergic reactions. The relationship between ustekinumab and cancer is not fully understood, but it is generally avoided in patients with a history of cancer. |  |
| 52 year old woman with moderate to severe distal ulcerative colitis that had a successful induction with vedolizumab. What would be the maintenance therapy? | Vedolizumab  Any other biologic possible but not ideal | Same maintenance biologic as induction biologic | Vedolizumab (5/5) | The maintenance therapy for this patient would likely continue to be Vedolizumab, given that she had a successful induction phase with this medication. The typical maintenance dose for Vedolizumab is 300 mg IV every 8 weeks. |  |
| 24 year old man with moderate to severe extensive ulcerative colitis previously in clinical remission with infliximab develops loss of response due to antibody formation | Adalimumab  Other anti-TNF | Immunogenic failure. Can consider changing to another anti-TNF class | Ustekinumab (5/5)  Vedolizumab (5/5) | 1. Drug Name: Ustekinumab  - Advantages: Ustekinumab is an IL-12/IL-23 inhibitor and has shown efficacy in patients who have had prior exposure to anti-TNF agents like Infliximab. It has a different mechanism of action which might be beneficial for patients who have developed antibodies to anti-TNF agents. It is also administered subcutaneously which may be more convenient for some patients.  - Disadvantages: Ustekinumab may take longer to show effects compared to anti-TNF agents. It also requires initial intravenous induction which may not be convenient for all patients. Side effects can include respiratory infections, headache, and fatigue.  2. Drug Name: Vedolizumab  - Advantages: Vedolizumab is an integrin receptor antagonist and has shown efficacy in patients with moderate to severe UC who have failed anti-TNF therapy. It specifically targets the gut, potentially reducing systemic side effects.  - Disadvantages: Vedolizumab may take longer to show effects compared to anti-TNF agents. It is administered intravenously which may not be convenient for all patients. Side effects can include headache, joint pain, nausea, and fever. |  |
| 44 year old woman with moderate to severe extensive ulcerative colitis and rheumatoid arthritis | Infliximab or Adalimumab or tofacitinib | Dual use | Infliximab (5/5)  Adalimumab (5/5) | 1. Infliximab:  - Advantages: Infliximab has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis. It is also used in the treatment of rheumatoid arthritis, which the patient also has.  - Disadvantages: Infliximab is administered intravenously, which may be inconvenient for some patients. There may also be risks associated with its use, such as serious infections and lymphoma.  2. Adalimumab:  - Advantages: Adalimumab is also effective in treating moderate to severe ulcerative colitis and rheumatoid arthritis. It is administered subcutaneously, which some patients may find more convenient than intravenous administration.  - Disadvantages: Adalimumab may also be associated with risks such as serious infections and lymphoma. Some patients may also develop antibodies to adalimumab, which can reduce its effectiveness. |  |
| 55 year old man with moderate to severe extensive ulcerative colitis who values convenience and limited time spent in hospital | Ustekinumab or Adalimumab or Tofacitinib | Subcutaneous and oral options | Adalimumab (2/5)  Infliximab (2/5) Ustekinumab (2/5) Vedolizumab (1/5)  Tofacitinib (1/5) | 1. Drug Name: Adalimumab  - Advantages: Adalimumab is administered via subcutaneous injection, which can be done at home, providing convenience for the patient. It has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis.  - Disadvantages: Adalimumab may not work for everyone and there may be risks associated with its use, including serious infections and malignancies. Regular monitoring is required to manage potential side effects.  2. Ustekinumab:  Advantages: It is an IL-12 and IL-23 inhibitor which is effective for moderate to severe ulcerative colitis. It can also be self-administered subcutaneously which increases convenience and reduces hospital visits.  Disadvantages: Side effects include increased risk of infections, possible development of anti-drug antibodies which may reduce its effectiveness over time, and potential for adverse reactions at the injection site.  3. Infliximab  Infliximab is a TNF-Î± inhibitor that has demonstrated efficacy in clinical trials in moderate to severe ulcerative colitis. It is typically administered through infusions at a hospital or infusion center.  Pros of Infliximab:  - It has a long track record and has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis.  - It can lead to rapid improvement in symptoms and endoscopic healing.  Cons of Infliximab:  - It requires intravenous administration, which may not be convenient for the patient.  - There is a risk of developing infusion reactions or antibodies to the drug, which can decrease its effectiveness.  - There may be risks associated with its use, including serious infections and malignancies. |  |
| 60 year old woman with severe ulcerative colitis that has loss of response to anti-TNF, vedolizumab, Ustekinumab | Upadacitinib  Tofacitinib  Or dual biologics use | Last line agents  (this one may be difficult because upada is not in the guidelines yet.  Alternatively, dual biologics use is possible (but not in our guidelines as well) | Tofacitinib (5/5)  Infliximab (3/5)  Upadacitinib (2/5) | 1. Infliximab:  - Advantages: Infliximab has been ranked highest in biologic-naÃ¯ve patients for induction of remission and endoscopic improvement. It has shown efficacy in clinical trials in moderate to severe UC.  - Disadvantages: Infliximab is administered intravenously which may be inconvenient for some patients. There may be risks associated with its use, such as serious infections or malignancy. It may not work in all patients.  2. Tofacitinib:  - Advantages: Tofacitinib has been ranked highest in patients with prior exposure to TNF antagonists for induction of remission and endoscopic improvement. It is an oral medication which may be more convenient for patients.  - Disadvantages: Tofacitinib may have potential side effects including serious infections, malignancies, and cardiovascular events. It may not work in all patients.  3. Upadacitinib  "advantages": "Upadacitinib has shown high efficacy rates in treating moderate to severe ulcerative colitis, even in patients who have had prior failure with other biologic agents. It is also an oral medication, which could be a more convenient route of administration for some patients.",  "disadvantages": "The safety profile of Upadacitinib is still under investigation. It may cause serious side effects including serious infections, changes in certain laboratory results, and potential increased risk of blood clots. It may not be suitable for patients with certain comorbidities." |  |
| 36 year old man with moderate to severe extensive ulcerative colitis and spondylarthritis | Infliximab  Tofacitinib | Dual indications | Infliximab (5/5)  Adalimumab (4/5) | 1. Infliximab:  - Advantages: Infliximab has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis. It is also beneficial for patients with extraintestinal manifestations like spondylarthritis.  - Disadvantages: Infliximab is administered intravenously which may be inconvenient for some patients. There may also be risks associated with its use such as serious infections and potential allergic reactions.  2. Adalimumab:  - Advantages: Adalimumab is also effective in treating moderate to severe ulcerative colitis and has been shown to be beneficial for patients with spondylarthritis. It is administered subcutaneously which may be more convenient than intravenous administration.  - Disadvantages: Potential side effects include serious infections and allergic reactions. Some patients may also develop antibodies to Adalimumab which can reduce its effectiveness. |  |
| 42 year old woman with moderate ulcerative colitis on azathioprine and not responding to therapy | Anti-TNF | For combination therapy | Infliximab (5/5)  Vedolizumab (5/5) | 1. Infliximab  - Advantages: Infliximab has shown efficacy in clinical trials in moderate to severe UC. It targets the pro-inflammatory cytokine tumour necrosis factor-Î± (TNF-Î±), which is involved in the inflammation process in UC. It has been ranked highest for induction of clinical remission and endoscopic improvement in biologic-naÃ¯ve patients.  - Disadvantages: Infliximab is administered intravenously which may be inconvenient for some patients. There may be risks associated with its use, including serious adverse effects. It may not work in all patients.  2. Vedolizumab  - Advantages: Vedolizumab is a newer biological therapy that targets Î± or Î² integrins, which are involved in migration of immune cells to inflamed intestinal mucosa. It has been shown to be effective in inducing clinical remission in patients with moderate to severe UC.  - Disadvantages: Vedolizumab is administered intravenously, which may be inconvenient for some patients. There may be risks associated with its use, including serious adverse effects. It may not work in all patients. |  |
| 53 year old man with moderate to severe extensive ulcerative colitis and low albumin levels | Tofacitinib, vedolizumab or ustekinumab | Low serum albumin associated with poorer response to anti-TNFs (esp. IFX) | Infliximab (3/5)  Adalimumab (2/5) | 1. Infliximab:  - Advantages: Infliximab can rapidly induce and maintain remission in patients with moderate to severe ulcerative colitis. It can also promote mucosal healing and improve the quality of life.  - Disadvantages: Infliximab can cause serious infections and potential allergic reactions. Patients should be tested for tuberculosis before starting treatment. Infliximab is also administered intravenously which may be inconvenient for some patients.  2. Adalimumab:  - Advantages: Adalimumab can also induce and maintain remission in patients with moderate to severe ulcerative colitis. It is self-administered via subcutaneous injection, providing a more convenient option for some patients.  - Disadvantages: Adalimumab can also cause serious infections and allergic reactions. It's also a more expensive option. |  |
| 42 year old woman with severe ulcerative colitis and rare fistulating disease | Infliximab or Adalimumab | No real data on UC – related fistula | No information from knowledge base | I'm sorry, but the information provided is not sufficient to make a proper assessment and provide the top choices of biological drugs. More details about the patient's medical history, prior responses to treatments, and other relevant factors are needed. |  |

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| 68 year old man with extensive moderate to severe UC who has prostate cancer which has been treated 5 years ago | Vedolizumab or ustekinumab | Anti-TNFs and JAK inhs have associations/concerns with malignancies | Vedolizumab (3/5)  Ustekinumab (2/5) | 1. Drug Name: Vedolizumab  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and has less systemic side effects. This could be beneficial for this patient due to his age and history of cancer. It has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis.  - Disadvantages: Vedolizumab is administered via intravenous infusion, which may be inconvenient. It may also take longer to see the effects of this drug compared to others.  2. Drug Name: Ustekinumab  - Advantages: Ustekinumab is another option that could be considered. It has been shown to be effective in treating moderate to severe ulcerative colitis. It is administered subcutaneously, which may be more convenient than intravenous infusions.  - Disadvantages: Ustekinumab may have more systemic effects compared to vedolizumab. It also requires initial intravenous induction. |  |
| 25 year old man with extensive moderate to severe ulcerative colitis and primary sclerosing cholangitis with decompensated cirrhosis | Vedolizumab (or ustekinumab) | Low/No evidence here | Vedolizumab (5/5)  Ustekinumab (5/5) | 1. Vedolizumab:  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and reduces inflammation there. It has been shown to be effective in treating moderate to severe ulcerative colitis. It is also less likely to have systemic side effects compared to other drugs.  - Disadvantages: Vedolizumab may not be as effective in patients who have failed anti-TNF therapy. It is also administered intravenously, which may be inconvenient for some patients.  2. Ustekinumab:  - Advantages: Ustekinumab is effective in treating moderate to severe ulcerative colitis. It targets a specific protein (interleukin-12 and -23) involved in inflammation. It is administered subcutaneously, which may be more convenient than intravenous administration.  - Disadvantages: Ustekinumab may have side effects including respiratory infections, headache, and fatigue. It may also not be as effective in patients who have failed anti-TNF therapy. |  |
| 48 year old woman with distal moderate to severe ulcerative colitis who prioritises a rapid response to treatment | Infliximab or tofacitinib | IFX and TFC have the quickest response | Infliximab(5/5)  Adalimumab (3/5)  Vedolizumab (2/5) | 1. Infliximab:  - Advantages: Infliximab has shown efficacy in clinical trials for moderate to severe UC. It targets the pro-inflammatory cytokine tumour necrosis factor-Î± (TNF-Î±), which is involved in the inflammation process in UC. It has been shown to induce clinical remission and endoscopic improvement, making it a good choice for a patient prioritizing a rapid response.  - Disadvantages: Infliximab is administered intravenously, which may be inconvenient for some patients. There may also be risks associated with its use, including serious adverse effects. Some patients may also develop resistance to the drug over time.  2. Adalimumab:  - Advantages: Adalimumab is another drug that targets TNF-Î± and has been tested for moderate to severe UC. It is administered subcutaneously, which may be more convenient than intravenous administration.  - Disadvantages: Similar to Infliximab, there may be risks associated with the use of Adalimumab, including serious adverse effects. Some patients may also develop resistance to the drug over time.  3. Vedolizumab:  - Advantages: Vedolizumab, which targets Î± or Î² integrins involved in the migration of immune cells to inflamed intestinal mucosa, can be considered for patients with moderate ulcerative colitis. It has shown effectiveness in reducing inflammation and inducing and maintaining remission.  - Disadvantages: Vedolizumab may not work in all patients and there may be risks associated with its use, including potential for causing serious infections. It is also administered intravenously, which can be inconvenient for some patients. |  |
| 36 year old woman with moderate to severe ulcerative colitis who has lost response to tofacitinib | Infliximab or ustekinumab | VDZ doesn’t do well as 2nd line | Ustekinumab  Infliximab | Infliximab:  - Advantages: Infliximab has been shown to be effective in inducing clinical remission and endoscopic improvement in patients with moderate to severe ulcerative colitis. It is also ranked highly for inducing clinical remission in biologic-naive patients.  - Disadvantages: Infliximab is administered intravenously which may be inconvenient for some patients. There is also a risk of developing antibodies to infliximab which can reduce its effectiveness over time.  Ustekinumab:  - Advantages: Ustekinumab has been shown to be effective in inducing clinical remission in patients with moderate to severe ulcerative colitis who have had prior exposure to TNF antagonists. It is also administered subcutaneously which may be more convenient for some patients.  - Disadvantages: The effectiveness of ustekinumab in inducing endoscopic improvement is not as well established as infliximab. There is also a risk of serious infections with ustekinumab use.  3. Vedolizumab:  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets inflammation in the gut, potentially leading to fewer systemic side effects. It has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis.  - Disadvantages: Similar to Infliximab, Vedolizumab is also administered through intravenous infusion which might not be convenient for all patients. Side effects may include headache, joint pain, nausea, and fever. There is also a risk of serious infections with Vedolizumab use. |  |
| 18 year old man with moderate to severe extensive ulcerative colitis and pyoderma gangrenosum | Infliximab or adalimumab | Dual indications | Infliximab (5/5)  Adalimumab (3/5) | Infliximab is a TNF-alpha inhibitor that has shown efficacy in clinical trials for moderate to severe UC. It is administered intravenously which may be inconvenient for some patients.  Adalimumab is another TNF-alpha inhibitor that has been tested for UC. It is administered subcutaneously, which may be more convenient for some patients.  Both drugs have been associated with risks, including serious infections and malignancies.  Here are the pros and cons of the two choices:  Infliximab:  - Advantages: Proven efficacy in moderate to severe UC, may be effective for patients with extraintestinal manifestations like pyoderma gangrenosum.  - Disadvantages: Risk of serious infections and malignancies, intravenous administration may be inconvenient for some patients.  Adalimumab:  - Advantages: Proven efficacy in moderate to severe UC, subcutaneous administration may be more convenient for some patients.  - Disadvantages: Risk of serious infections and malignancies. |  |
| 58 year old woman with moderate to severe distal ulcerative colitis and optic neuritis | Vedolizumab or ustekinumab | Anti-TNFs are contraindicated | Vedolizumab (4/5)  Ustekinumab (4/5) | 1. Vedolizumab  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and has less systemic side effects. It has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis.  - Disadvantages: It is administered intravenously, which may be inconvenient for some patients. There may also be a risk of infusion-related reactions.  2. Ustekinumab  - Advantages: Ustekinumab has been shown to be effective in treating moderate to severe ulcerative colitis. It is administered subcutaneously, which may be more convenient than intravenous administration.  - Disadvantages: There may be a risk of serious infections and it may not be as effective in patients who have failed anti-TNF therapy. |  |
| 55 year old man with moderate to severe extensive ulcerative colitis and colonic polyps with high grade dysplasia found 2 years ago | Vedolizumab or ustekinumab | ?? no idea | Infliximab (5/5)  Vedolizumab (4/5) | 1. Infliximab: This drug has shown efficacy in clinical trials in moderate to severe UC. It targets the pro-inflammatory cytokine tumour necrosis factor-Î± (TNF-Î±).  Advantages: Infliximab has been shown to be effective in inducing and maintaining remission in moderate to severe UC. It can also improve the quality of life for patients.  Disadvantages: Infliximab can have potential side effects including risk of infections, lymphoma, and other cancers. It is also administered intravenously which may be inconvenient for some patients.  2. Vedolizumab: This is a newer biological therapy that targets Î± or Î² integrins, which are involved in the migration of immune cells to inflamed intestinal mucosa.  Advantages: Vedolizumab is generally well tolerated and has been shown to be effective in treating moderate to severe UC. It can lead to improvement in both symptoms and endoscopic findings.  Disadvantages: Vedolizumab may take longer to work compared to other treatments. It also carries risks of side effects such as headache, joint pain, nausea, and fever. It is also administered intravenously. |  |
| 27 year old woman with moderate to severe extensive ulcerative colitis who prefers medication with oral formulation | Tofacitinib | Only oral formulation | Tofacitinib (5/5)  Upadacitinib (4/5) | Both drugs are small molecules that can be taken orally, which aligns with the patient's preference.  Upadacitinib:  - Advantages: Upadacitinib has shown high efficacy rates in both induction and maintenance of remission in moderate to severe ulcerative colitis. It has also shown good performance in patients previously exposed to anti-TNF-Î± therapies.  - Disadvantages: There may be risks associated with its use, including serious adverse events. However, none of the drugs studied were more likely to lead to serious adverse events than placebo.  Tofacitinib:  - Advantages: Tofacitinib has been shown to be effective in inducing and maintaining remission in moderate to severe ulcerative colitis. It is also beneficial for patients who have had prior exposure to anti-TNF-Î± therapies.  - Disadvantages: Tofacitinib may have potential side effects, including serious infections. It is also not recommended for use in pregnant women, which may be a consideration for a woman of childbearing age. |  |
| 41 year old man with moderate to severe distal ulcerative colitis and alopecia areata | Tofacitinib | JAK Inhibitors can be used for AA | Ustekinumab (4/5)  Vedolizumab (4/5) | Ustekinumab:  - Advantages: Ustekinumab is effective in inducing and maintaining remission in moderate to severe ulcerative colitis. It is also beneficial for patients with extraintestinal manifestations like alopecia areata.  - Disadvantages: Ustekinumab may have side effects including respiratory infections, headache, and fatigue. It is also administered via injection, which may not be preferred by some patients.  Vedolizumab:  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets inflammation in the gut, potentially reducing systemic side effects. It has been shown to be effective in treating moderate to severe ulcerative colitis.  - Disadvantages: Vedolizumab may not be as effective in patients who have failed anti-TNF therapy. It also requires intravenous administration, which can be inconvenient for some patients. |  |
| 38 year old woman with moderate to severe ulcerative colitis and pulmonary tuberculosis which was treated 2 years ago. | Vedolizumab or ustekinumab | Anti-TNFs and JAK inhs have associations/concerns with infections | Vedolizumab (5/5)  Ustekinumab (5/5) | 1. Vedolizumab  - Advantages: Vedolizumab is a gut-selective immunosuppressant, meaning it specifically targets the gut and has less systemic immunosuppressive effects. This could be beneficial for this patient who has a history of tuberculosis, as it may have a lower risk of reactivating latent tuberculosis compared to other biologics.  - Disadvantages: Vedolizumab may not be as effective as other biologics in inducing remission in ulcerative colitis. It also requires intravenous administration, which may be inconvenient for some patients.  2. Ustekinumab  - Advantages: Ustekinumab has shown efficacy in treating moderate to severe ulcerative colitis. It is administered subcutaneously, which may be more convenient than intravenous administration.  - Disadvantages: Ustekinumab, as an immunosuppressant, could potentially increase the risk of reactivating latent tuberculosis. Therefore, the patient's tuberculosis history and current status should be carefully evaluated and monitored. |  |