CHAPTER 04

Diseases of the immune system

This chapter has 45 four-character categories.

Code range starts with 4A00

Exclusions: Complications of pregnancy, childbirth and the puerperium (Chapter 18)

Neoplasms (Chapter 02)

Developmental anomalies (Chapter 20)

Coded Elsewhere: Organ specific autoimmune disorders

Symptoms, signs or clinical findings of blood, blood-forming organs, or the immune system (MA00-MA3Y)

This chapter contains the following top level blocks:

* Primary immunodeficiencies
* Nonorgan specific systemic autoimmune disorders
* Autoinflammatory disorders
* Allergic or hypersensitivity conditions
* Immune system disorders involving white cell lineages
* Certain disorders involving the immune system
* Organ specific autoimmune disorders

Primary immunodeficiencies (BlockL1‑4A0)

4A00 Primary immunodeficiencies due to disorders of innate immunity

Coded Elsewhere: Constitutional neutropaenia (4B00.00)

4A00.0 Functional neutrophil defects

Inclusions: Congenital dysphagocytosis

Coded Elsewhere: Haemolytic anaemia due to glucose-6-phosphate dehydrogenase deficiency (3A10.00)

Papillon-Lefèvre syndrome (EC20.30)

4A00.00 Neutrophil immunodeficiency syndrome

Neutrophil immunodeficiency syndrome is a primary immunodeficiency characterised by neutrophilia with severe neutrophil dysfunction, leukocytosis, a predisposition to bacterial infections and poor wound healing, including an absence of pus in infected areas.

4A00.0Y Other specified functional neutrophil defects

4A00.0Z Functional neutrophil defects, unspecified

4A00.1 Defects in the complement system

Exclusions: Atypical haemolytic uraemic syndrome (3A10)

Paroxysmal nocturnal haemoglobinuria (3A21.0)

4A00.10 Immunodeficiency with an early component of complement deficiency

4A00.11 Immunodeficiency with a late component of complement deficiency

4A00.12 Immunodeficiency with factor B deficiency

4A00.13 Immunodeficiency with factor D anomaly

Factor D deficiency is an autosomal recessive immunologic disorder characterised by increased susceptibility to bacterial infections, particularly Neisseria infections, due to a defect in the alternative complement pathway.

4A00.14 Hereditary angioedema

Hereditary angioedema is caused in the majority of cases by genetically determined low absolute (type I) or functional (type II) levels of C1 inhibitor, a plasma proteinase inhibitor involved in regulation of complement activation. It is characterised clinically by recurrent subcutaneous and/or submucosal oedema and can result in life-threatening laryngeal obstruction. Involvement of the digestive tract commonly causes abdominal pain. This and the absence of accompanying urticarial weals or itch distinguish it from the common form of angioedema, which is part of the spectrum of urticaria.

4A00.15 Acquired angioedema

Acquired angioedema is clinically similar to hereditary angioedema and is not associated with urticaria. It may be associated with a lymphoproliferative disorder (type I) or may be an isolated phenomenon due to an autoantibody directed against C1 inhibitor (type II).

4A00.1Y Other specified defects in the complement system

4A00.1Z Defects in the complement system, unspecified

4A00.2 Genetic susceptibility to particular pathogens

Coded Elsewhere: Encephalitis due to herpes simplex virus (1F00.21)

Chronic mucocutaneous candidosis (1F23.14)

4A00.3 Immunodeficiency with natural-killer cell deficiency

4A00.Y Other specified primary immunodeficiencies due to disorders of innate immunity

4A00.Z Primary immunodeficiencies due to disorders of innate immunity, unspecified

4A01 Primary immunodeficiencies due to disorders of adaptive immunity

4A01.0 Immunodeficiencies with predominantly antibody defects

A disorder characterised by an inability to mount a normal immune response due to antibody (i.e. immunoglobulin) defects

4A01.00 Hereditary agammaglobulinaemia with profoundly reduced or absent B cells

This refers to a hereditary type of primary immune deficiency disease characterised by a reduction in all types of gamma globulins, and rare X-linked genetic disorder that affects the body's ability to fight infection.

4A01.01 Immunodeficiencies with severe reduction in at least two serum immunoglobulin isotypes with normal or low numbers of B cells

This refers to a nonfamilial type of primary immune deficiency disease characterised by a reduction in at least two serum immunoglobulin isotypes. Circulating B cells may be normal or low.

4A01.02 Specific antibody deficiency with normal immunoglobulin concentrations or normal number of B cells

4A01.03 Transient hypogammaglobulinaemia of infancy

4A01.04 Immunodeficiencies with isotype or light chain deficiencies with normal number of B cells

4A01.05 Immunodeficiencies with severe reduction in serum IgG or IgA with normal or elevated IgM and normal numbers of B-cells

Coded Elsewhere: Hyper-IgM syndrome due to CD40 ligand deficiency (4A01.1Y)

Hyper-IgM syndrome due to CD40 deficiency (4A01.1Y)

4A01.0Y Other specified immunodeficiencies with predominantly antibody defects

4A01.0Z Immunodeficiencies with predominantly antibody defects, unspecified

4A01.1 Combined immunodeficiencies

Exclusions: autosomal recessive agammaglobulinaemia (Swiss type) (4A01.00)

Coded Elsewhere: Laron syndrome with immunodeficiency (5A61.0)

4A01.10 Severe combined immunodeficiencies

Severe combined immunodeficiency (SCID) comprises a group of rare monogenic primary immunodeficiency disorders characterised by a lack of functional peripheral T lymphocytes resulting in early-onset severe respiratory infections and failure to thrive.

4A01.11 Major histocompatibility complex class I deficiency

4A01.12 Major histocompatibility complex class II deficiency

Immunodeficiency by defective expression of HLA class II is an autosomal recessive primary immune deficiency, manifesting by recurrent viral and bacterial infections, often leading to chronic diarrhoea and growth retardation.

4A01.1Y Other specified combined immunodeficiencies

4A01.1Z Combined immunodeficiencies, unspecified

4A01.2 Diseases of immune dysregulation

4A01.20 Immune dysregulation syndromes with hypopigmentation

Coded Elsewhere: Hermansky-Pudlak syndrome (EC23.20)

Chédiak-Higashi syndrome (EC23.20)

Griscelli syndrome type 2 (4A01.23)

4A01.21 Immune dysregulation syndromes presenting primarily with autoimmunity

Coded Elsewhere: Autoimmune polyendocrinopathy type 1 (5B00)

Syndromic multisystem autoimmune disease due to ITCH deficiency (4A43.Y)

Aicardi-Goutières syndrome (5C55.2)

Spondylometaphyseal dysplasia with combined immunodeficiency (LD24.4)

4A01.22 Immune dysregulation syndromes presenting primarily with lymphoproliferation

4A01.23 Primary haemophagocytic lymphohistiocytosis

A disease caused by determinants arising after birth, during the antenatal period or genetically inherited factors leading to uncontrolled proliferation of activated lymphocytes and macrophages. This disease is characterised by increased proliferation of morphologically benign lymphocytes and macrophages that secrete high amounts of inflammatory cytokines. This disease may present with fever, rash, jaundice, splenomegaly, lymphadenopathy, histiocytosis, haemophagocytosis, or cytopenia.

Inclusions: Histiocytoses of mononuclear phagocytes

Coded Elsewhere: Hermansky-Pudlak syndrome (EC23.20)

Chédiak-Higashi syndrome (EC23.20)

4A01.2Y Other specified diseases of immune dysregulation

4A01.2Z Diseases of immune dysregulation, unspecified

4A01.3 Other well-defined immunodeficiency syndromes due to defects in adaptive immunity

This refers to other defects in the highly specialized, systemic cells and processes that eliminate or prevent pathogen growth.

Coded Elsewhere: Wiskott-Aldrich syndrome (3B62.0Y)

Netherton syndrome (LD27.2)

Dyskeratosis congenita (3A70.0)

4A01.30 Immunodeficiency due to defects of the thymus

Coded Elsewhere: CATCH 22 phenotype (LD44.N0)

4A01.31 DNA repair defects other than combined T-cell or B-cell immunodeficiencies

4A01.32 Immuno-osseous dysplasia

This is an autosomal recessive disorder with the diagnostic features of spondyloepiphyseal dysplasia, renal dysfunction, and T-cell immunodeficiency.

Coded Elsewhere: Cartilage-hair hypoplasia (LD27.0Y)

4A01.33 Hepatic veno-occlusive disease - immunodeficiency

Hepatic veno-occlusive disease - immunodeficiency syndrome is characterised by the association of severe hypogammaglobulinemia, combined T and B cell immunodeficiency, absent lymph node germinal centres, absent tissue plasma cells and hepatic veno-occlusive disease.

4A01.34 Hyperimmunoglobulin E syndromes

4A01.Z Primary immunodeficiencies due to disorders of adaptive immunity, unspecified

4A0Y Other specified primary immunodeficiencies

4A0Z Primary immunodeficiencies, unspecified

4A20 Acquired immunodeficiencies

Coded Elsewhere: Human immunodeficiency virus disease (1C60-1C62.Z)

Acquired neutropaenia (4B00.01)

4A20.0 Adult-onset immunodeficiency

Adults with disseminated mycobacterial infections and/or other AIDS-defining infections, often involving concomitant neutrophilic dermatoses. All patients have high titres of anti-interferon-gamma and normal CD4 T helper cell counts.

4A20.1 Acquired immunodeficiency due to loss of immunoglobulin

Acquired immunodeficiency due to loss of immunoglobulins (protein loss) may occur via the GI tract (protein losing enteropathy), via the kidney (nephrotic syndrome) or via the skin (in severe skin damage).

4A20.Y Other specified acquired immunodeficiencies

4A20.Z Acquired immunodeficiencies, unspecified

Nonorgan specific systemic autoimmune disorders (BlockL1‑4A4)

Coded Elsewhere: Rheumatoid arthritis (FA20)

4A40 Lupus erythematosus

An autoimmune non-organ specific inflammatory disease characterised by the presence of antibodies to DNA, RNA and other components of the nucleus. It has a very variable clinical presentation and course ranging from an acute fulminant life-threatening disorder with involvement of heart, central nervous system and kidneys to an indolent chronic scarring skin disorder.

Coded Elsewhere: Subacute cutaneous lupus erythematosus (EB50)

Chronic cutaneous lupus erythematosus (EB51)

Neonatal lupus erythematosus (KA07.0)

4A40.0 Systemic lupus erythematosus

Systemic lupus erythematosus (SLE) is a clinically multisystem disease, which is autoimmune in origin and is characterised by the presence of autoantibodies directed against nuclear antigens. Manifestations include rash, arthritis and fatigue, nephritis, neurological problems, anaemia and thrombocytopenia at the more severe end of the spectrum.

4A40.00 Systemic lupus erythematosus with skin involvement

Systemic lupus erythematosus (SLE) involving the skin. This may present with a malar "butterfly" erythema or with extensive necrolysis of sun-exposed skin, particularly on the head, neck and upper torso.

Coded Elsewhere: Immunobullous systemic lupus erythematosus (EB4Y)

4A40.0Y Other specified systemic lupus erythematosus

4A40.0Z Systemic lupus erythematosus, unspecified

4A40.1 Drug-induced lupus erythematosus

Drug-induced lupus erythematosus is a syndrome in which positive antinuclear antibodies are associated with symptoms, such as fever, malaise, arthritis, intense arthralgia/myalgia, serositis, and/or rash. The syndrome appears during therapy with certain medications (e.g., procainamide, hydralazine, phenytoin) and tumour necrosis factor inhibitors. It occurs predominantly in Caucasians, has less female predilection than SLE, rarely involves kidneys or brain, is rarely associated with anti-dsDNA, is commonly associated with antibodies to histones, and usually resolves over several weeks after discontinuation of the offending medication.

4A40.Y Other specified lupus erythematosus

4A40.Z Lupus erythematosus, unspecified

4A41 Idiopathic inflammatory myopathy

These comprise a diverse group of syndromes that have in common persistent muscle inflammation of unknown pathophysiology, resulting in damage that affects muscle function. The inflammatory muscle disease can either be acute or chronic in nature.

Coded Elsewhere: Extraocular myositis (9C82.3)

4A41.0 Dermatomyositis

Dermatomyositis is an inflammatory myopathy, showing progressive, symmetrical muscle weakness, low muscle endurance, and cutaneous manifestations such as Gottron’s papules, heliotrope rash, shawl sign, V-sign and mechanic’s hand. Internal organ manifestations such as interstitial pneumonia (pneumonitis) and myocarditis sometimes develop. The skin rash may precede the muscle symptoms and may be the only clinical sign of dermatomyositis in some patients (clinically, amyopathic dermatomyositis).

4A41.00 Adult dermatomyositis

Adult dermatomyositis is a systemic inflammatory disorders affecting the skeletal muscles, the skin, and other organs. It is characterised by symmetric proximal muscle weakness, increased serum muscle enzymes, myopathic changes upon electromyography, typical histological findings on muscle biopsy, and typical dermatologic manifestations such as heliotrope rash or Gottron’s papules.

Exclusions: Myasthenia gravis or certain specified neuromuscular junction disorders (BlockL2‑8C6)

4A41.01 Juvenile dermatomyositis

Juvenile dermatomyositis is the early-onset form of dermatomyositis, a systemic autoimmune inflammatory muscle disorder, characterised by proximal muscle weakness, evocative skin lesion, and systemic manifestations.

4A41.0Z Dermatomyositis, unspecified

4A41.1 Polymyositis

Polymyositis is an inflammatory muscle disease of unknown aetiology occurring predominantly in adults and characterised clinically by proximal muscle weakness (shoulders, arms, thighs), often with associated myalgia. Involvement of pharyngeal and oesophageal muscles may result in dysphagia and a risk of aspiration pneumonia. Myocarditis with rhythm disturbances or cardiomyopathy is a rare but serious complication. Polymyositis may be associated with other autoimmune diseases, malignancy or viral infection. Although serum muscle enzyme concentrations and electromyography are usually abnormal, definitive diagnosis requires demonstration of characteristic histological changes, including muscle necrosis, muscle fibre regeneration and diffuse infiltration by CD8+ T lymphocytes, on muscle biopsy.

4A41.10 Juvenile polymyositis

Juvenile polymyositis is a rare childhood idiopathic inflammatory myopathy. It is frequently misdiagnosed, as it lacks a unique clinical phenotype. Traditionally, it presents with weakness of the proximal muscles that evolves over weeks to months. The primary histologic features in are fibre size variability, scattered necrotic and regenerating fibres, and perivascular and endomysial cellular infiltrates.

Exclusions: Systemic sclerosis (4A42)

Overlap or undifferentiated nonorgan specific systemic autoimmune disease (4A43)

Antiphospholipid syndrome (4A45)

Vasculitis (4A44)

Lupus erythematosus (4A40)

4A41.11 Paraneoplastic polymyositis

Paraneoplastic is a rare cancer associated entity. It presents sub-, or acutely with proximal weakness, often including the neck flexors, dysphagia, rarely the respiratory muscles and the heart are involved. Sometimes muscle pain or myalgia occur. Myopathology shows a targeted, cell-mediated lymphocyte toxicity against muscle fibres in focal areas of inflammation within perimysial connective tissue and surrounding blood vessels. Muscle fibres may be destroyed by cytotoxic T cells.

Non-Hodgkin’s lymphoma, lung, and bladder carcinoma are the most frequently observed associated cancer types.

4A41.1Y Other specified polymyositis

4A41.1Z Polymyositis, unspecified

4A41.2 Inclusion body myopathy

Inclusion body myopathy (IBM) is distinguished from polymyositis (PM) and dermatomyositis (DM) on the basis of clinical and histopathological features. A characteristic clinical phenotype is characterised by insidious onset of muscle weakness over months to years, muscle weakness localised predominantly in the thigh muscles and finger flexors, and resistance to glucocorticoid treatment. Typical histopathologic features include sarcoplasmic and nuclear inclusions and rimmed vacuoles. (Kelley's Textbook of Rheumatology, 6th Ed.)

4A41.20 Inflammatory inclusion body myositis

Inclusion body miositis (IBM) is the most common idiopathic inflammatory myopathies after age 50. It typically presents with chronic insidious proximal leg and/or distal arm asymmetric muscle weakness leading to recurrent falls and loss of dexterity. Creatine kinase is up to 15 times elevated in IBM and needle electromyography mostly shows a chronic irritative myopathy. Muscle histopathology demonstrates endomysial inflammatory exudates surrounding and invading non-necrotic muscle fibres often times accompanied by rimmed vacuoles and protein deposits. Despite inflammatory muscle pathology, it likely that IBM is has a prominent degenerative component as supported by refractoriness to immunosuppressive therapy.

Exclusions: Myasthenia gravis or certain specified neuromuscular junction disorders (BlockL2‑8C6)

4A41.21 Noninflammatory inclusion body myopathy

Noninflammatory inclusion body myositis (IBM) is an idiopathic muscle disorder without inflammatory exudates and expression of class I major histocompatibility complex. Rimmed vacuoles and “IBM-like” filaments without inflammatory cells are described in muscle biopsy.

Exclusions: Myasthenia gravis or certain specified neuromuscular junction disorders (BlockL2‑8C6)

4A41.2Z Inclusion body myopathy, unspecified

4A41.Y Other specified idiopathic inflammatory myopathy

4A41.Z Idiopathic inflammatory myopathy, unspecified

4A42 Systemic sclerosis

Systemic sclerosis is a systemic disorder of the connective tissue; manifested by hardening and thickening of the skin, by abnormalities involving the microvasculature and larger vessels, and by fibrotic degenerative changes in various body organs including the heart, lungs, kidneys, and gastrointestinal tract. (Arthritis Rheum 1980;23:581-590)

Inclusions: Systemic scleroderma

Exclusions: Circumscribed scleroderma (EB61.0)

4A42.0 Paediatric onset systemic sclerosis

Systemic sclerosis arising before the age of 16. Involvement of internal organs is less common but arthritis and myositis are more common than in adults.

4A42.1 Diffuse systemic sclerosis

Diffuse cutaneous systemic sclerosis (dcSSc) is a subtype of Systemic Sclerosis (SSc) characterised by truncal and acral skin fibrosis with an early and significant incidence of diffuse involvement (interstitial lung disease, oliguric renal failure, diffuse gastrointestinal disease, and myocardial involvement).

4A42.2 Limited systemic sclerosis

Combination of calcinosis, Raynaud phenomenon, (o)oesophageal dysfunction, sclerodactyly and telangiectasia.

4A42.Z Systemic sclerosis, unspecified

4A43 Overlap or undifferentiated nonorgan specific systemic autoimmune disease

Nonorgan specific systemic autoimmune diseases which do not fulfil the diagnostic criteria for any single recognised disease entity.

4A43.0 IgG4 related disease

IgG4 related syndrome (IgG4-related disease: IgG4-RD) is a clinical disease characterised by elevated serum IgG4 concentration and tumefaction or tissue infiltration by IgG4-positive plasma cells. The diagnostic criteria for IgG4 related syndrome have been proposed, and it may be present in a certain population of patients with a wide variety of diseases, including Mikulicz disease, autoimmune pancreatitis, hypophysitis, Riedel thyroiditis, interstitial pneumonitis, interstitial nephritis, prostatitis, lymphadenopathy, retroperitoneal fibrosis, inflammatory aortic aneurysm, and inflammatory pseudo tumour.

Coded Elsewhere: Primary cutaneous plasmacytosis (EK91.2)

Benign dermal lymphocytic or lymphoplasmacytic infiltrations or proliferations (EE90-EE91)

Type 1 IgG4 related autoimmune pancreatitis (DC33)

4A43.1 Mikulicz disease

Mikulicz disease is a disorder first reported by Johann von Mikulicz in 1892 and characterised by symmetrical swelling of the lachrymal, submandibular, and parotid glands, with massive infiltration of these glands by mononuclear cells. Serum autoantibodies, such as anti-Ro/SS-A, are usually negative and serum IgG4 concentration may be increased. Unlike Sjögren disease, IgG4-Mikulicz disease is characterised by the formation of lymphoid follicles, but shows lower levels of lymphocytic infiltration into salivary ducts, such that their structure remains intact.

4A43.2 Sjögren syndrome

Sjögren syndrome is a slowly progressive, systemic inflammatory autoimmune disease affecting primarily the exocrine glands. Lymphocytic infiltrates replace functional epithelium, leading to oral and ocular dryness. Characteristic autoantibodies (e.g., anti-Ro/SS-A and/or anti-La/SS-B) are produced. The disorder can occur alone (it is then known as ``primary-SS'') or in association with another autoimmune disease (it is then known as ``secondary-SS'').

Coded Elsewhere: Keratoconjunctivitis sicca (9A79)

4A43.20 Primary Sjögren syndrome

4A43.21 Secondary Sjögren syndrome

Secondary Sjögren syndrome is a progressive inflammatory autoimmune disease affecting the exocrine glands in the presence of other systemic autoimmune diseases, such as rheumatoid arthritis, systemic lupus erythematosus, and systemic sclerosis. Lymphocytic infiltrates replace functional epithelium, leading to oral and ocular dryness.

Coding Note: Code aslo the casusing condition

4A43.22 Paediatric onset Sjögren syndrome

4A43.2Y Other specified sjögren syndrome

4A43.3 Mixed connective tissue disease

Mixed connective tissue disease is an overlapping syndrome combining features of systemic lupus erythematosus, systemic sclerosis, and polymyositis with the presence of autoantibodies to U1-ribonucleoprotein. Raynaud’s phenomenon is seen in nearly all patients and pulmonary arterial hypertension is the most common cause of death in MCTD patients.

4A43.4 Diffuse eosinophilic fasciitis

Also called Shulman disease/diffuse fasciitis, diffuse eosinophilic fasciitis is a rare idiopathic disorder associated with induration of the skin (orange-peel sign) that generally develops rapidly. It is a dermal and hypodermal sclerosis associated with fibrotic thickening of the subcutaneous adipose lobular septa, superficial fascia, and perimysium. Full thickness excisional biopsy of skin lesions revealing fibrosis of the subcutaneous fascia is generally required for diagnosis. Onset follows unusual physical exertion and trauma, especially in males.

4A43.Y Other specified overlap non-organ specific systemic autoimmune disease

4A43.Z Undifferentiated non-organ specific systemic autoimmune disease

4A44 Vasculitis

Vasculitides represent a heterogenous group of diseases of multifactorial aetiology characterised by inflammatory lesions of vessels. These lesions consist of fibrinoid necrosis (necrotizing arteritis), giant cell infiltration without necrosis, immunoglobulins deposit or leukocytoclastic infiltration. The spectrum and severity of the systemic vaculitides is broad, from life or sight threatening fulminant disease to relatively minor skin disease.

Coding Note: Code aslo the casusing condition

Coded Elsewhere: Behçet disease (4A62)

Thrombotic microangiopathy, not elsewhere classified (3B65)

4A44.0 Rhizomelic pseudopolyarthritis

4A44.1 Aortic arch syndrome

Arteritis, often granulomatous, predominantly affecting the aorta and/or its major branches. Onset usually in patients younger than 50.

4A44.2 Giant cell arteritis

Arteritis, often granulomatous, usually affecting the aorta and/or its major branches, with a predilection for the branches of the carotid artery. Often involves the temporal artery. Onset usually in patients older than 50 and often associated with polymyalgia rheumatica.

4A44.3 Single organ vasculitis

Vasculitis in arteries or veins of any size in a single organ that has no features that indicate that it is a limited expression of a systemic vasculitis. The involved organ and vessel type should be included in the name (e.g. cutaneous SVV, testicular arteritis, central nervous system vasculitis). Vasculitis distribution may be unifocal or multifocal (diffuse) within an organ. Some patients originally diagnosed with SOV will develop additional disease manifestations that warrant re-defining the case as one of the systemic vasculitides (e.g. cutaneous arteritis later becoming systemic polyarteritis nodosa, etc.).Chapel Hill Consensus Conference, 2011)

4A44.4 Polyarteritis nodosa

Polyarteritis nodosa is an immunologically mediated systemic necrotising vasculitis affecting medium-sized vessels. In a few cases, the disease appears after viral infection but in the majority of cases there is no known triggering event. The clinical manifestations involve numerous organs and lead to a general alteration in the health status including rapid weight loss, paralysis of the peripheral nerves, renal disease, and digestive problems such as haemorrhages, perforation, appendicitis and pancreatitis. Arthralgia is almost always present and myalgia occurs in half of patients. Cardiac and cerebral anomalies (cephalalgia) are also reported, as well as ocular and genital (orchitis) manifestations.

4A44.5 Mucocutaneous lymph node syndrome

Arteritis associated with the mucocutaneous lymph node syndrome and predominantly affecting medium-sized and small arteries. Coronary arteries are often involved. Aorta and large arteries may be involved. Usually occurs in infants and young children.

Inclusions: Kawasaki syndrome

4A44.6 Sneddon syndrome

Sneddon syndrome associates livedo reticularis and neurological signs. Livedo is permanent, cyanotic, with no infiltration, and affects the limbs, trunk and sometimes the face. Neurological signs appear later and include cerebrovascular accidents, epilepsy, vertigo and more rarely a pseudobulbar syndrome, chorea, episodes of amnesia or transient amaurosis.

4A44.7 Primary angiitis of the central nervous system

In primary angiitis of the central nervous system, vasculitis is limited to the central nervous system. Primary angiitis of the central nervous system is a very rare disease, and its manifestation can be mimicked by many other diseases. Patients with primary angiitis commonly show headache, waxing and waning altered mental status, and transient ischemic attack-like events. Diagnosis is often based on angiography, although brain biopsy remains the only definitive diagnostic test.

4A44.8 Thromboangiitis obliterans

Thromboangiitis obliterans (TAO), or Buerger's disease, is a segmental occlusive inflammatory condition of arteries and veins, with thrombosis and recanalization of the affected vessels. It is a nonatherosclerotic inflammatory disease affecting small and medium sized arteries and veins of upper and lower extremities. TAO can be distinguished from other types of vasculitis based on its tendency to occur in young male subjects. The etiology and pathogenesis of TAO remains unknown; however, tobacco consumption plays a key role in the initiation and persistence of the disease.

4A44.9 Immune complex small vessel vasculitis

Coded Elsewhere: Anti-glomerular basement membrane antibody mediated disease (MF85)

Susac syndrome (8A45.2Y)

4A44.90 Cryoglobulinaemic vasculitis

Vasculitis with cryoglobulin immune deposits affecting small vessels (predominantly capillaries, venules, or arterioles) and associated with cryoglobulins in serum. Skin and glomeruli are often involved.

4A44.91 Hypocomplementaemic urticarial vasculitis

Vasculitis accompanied by urticaria and hypocomplementemia affecting small vessels (i.e., capillaries, venules, or arterioles), and associated with anti-C1q antibodies. Glomerulonephritis, arthritis, obstructive pulmonary disease, and ocular inflammation are common.(Chapel Hill Consensus Conference, 2011)

4A44.92 IgA vasculitis

Vasculitis, with IgA1-dominant immune deposits, affecting small vessels (predominantly capillaries, venules, or arterioles). Often involves skin and gut, and frequently causes arthritis. Glomerulonephritis indistinguishable from IgA nephropathy may occur.

Inclusions: Henoch-Schönlein purpura

Coded Elsewhere: Respiratory disorders in IgA vasculitis (CB05.4Y)

Noninfectious enteritis or ulcer due to IgA vasculitis (DA94.Y)

4A44.9Y Other specified immune complex small vessel vasculitis

4A44.9Z Immune complex small vessel vasculitis, unspecified

4A44.A Antineutrophil cytoplasmic antibody-associated vasculitis

Necrotizing vasculitis, with few or no immune deposits, predominantly affecting small vessels (i.e., capillaries, venules, arterioles and small arteries), associated with MPO-ANCA or PR3-ANCA. Not all patients have ANCA. Add a prefix indicating ANCA reactivity, e.g. PR3-ANCA, MPO-ANCA, ANCA-negative.

4A44.A0 Microscopic polyangiitis

Necrotizing vasculitis, with few or no immune deposits, predominantly affecting small vessels (i.e., capillaries, venules, or arterioles). Necrotizing arteritis involving small and medium sized arteries may be present. Necrotizing glomerulonephritis is very common. Pulmonary capillaritis often occurs. Granulomatous inflammation is absent.

Inclusions: Microscopic polyarteritis

Exclusions: Polyarteritis nodosa (4A44.4)

4A44.A1 Granulomatosis with polyangiitis

Necrotizing granulomatous inflammation usually involving the upper and lower respiratory tract, and necrotizing vasculitis affecting predominantly small to medium-sized vessels (e.g., capillaries, venules, arterioles, arteries and veins). Necrotizing glomerulonephritis is common . (Arthritis Rheum 1990;33:1101-1107)

Inclusions: Wegener granulomatosis

4A44.A2 Eosinophilic granulomatosis with polyangiitis

Eosinophil-rich and necrotizing granulomatous inflammation often involving the respiratory tract, and necrotizing vasculitis predominantly affecting small to medium-sized vessels, and associated with asthma and eosinophilia. ANCA is most frequent when glomerulonephritis is present. (Arthritis Rheum 1990;33:1094-1100)

Inclusions: Churg-Strauss syndrome

4A44.AY Other specified antineutrophil cytoplasmic antibody-associated vasculitis

4A44.AZ Antineutrophil cytoplasmic antibody-associated vasculitis, unspecified

4A44.B Leukocytoclastic vasculitis

Leukocytoclastic vasculitis (hypersensitivity vasculitis; hypersensitivity angiitis) is a histopathological term commonly used to denote a small-vessel vasculitis. It may be localised to the skin or may manifest in other organs. The internal organs affected most commonly include the joints, the gastrointestinal tract, and the kidneys. The prognosis is good in the absence of internal involvement. Leukocytoclastic vasculitis has many causes including infections, drugs and systemic autoimmune diseases but no cause is identified in up to 50% of patients with this condition.

4A44.B0 Cutaneous leukocytoclastic vasculitis

Skin-limited small vessel leucocytoclastic vasculitis of unspecified or unknown aetiology

4A44.BY Other specified leukocytoclastic vasculitis

4A44.BZ Leukocytoclastic vasculitis, unspecified

4A44.Y Other specified vasculitis

Coding Note: Code aslo the casusing condition

4A44.Z Vasculitis, unspecified

Coding Note: Code aslo the casusing condition

4A45 Antiphospholipid syndrome

Antiphospholipid syndrome, also known as Hughes syndrome, is a systemic autoimmune condition characterised by the presence of antiphospholipid antibodies (aPL) in the serum of patients with thrombotic events and/or recurrent pregnancy complications.

4A45.0 Primary antiphospholipid syndrome

4A45.1 Secondary antiphospholipid syndrome

Coding Note: Code aslo the casusing condition

4A45.2 Antiphospholipid syndrome in pregnancy

4A45.3 Lupus anticoagulant-hypoprothrombinaemia syndrome

4A45.Z Antiphospholipid syndrome, unspecified

4A4Y Other specified nonorgan specific systemic autoimmune disorders

4A4Z Nonorgan specific systemic autoimmune disorders, unspecified

Autoinflammatory disorders (BlockL1‑4A6)

Coded Elsewhere: Schnitzler syndrome (EB03)

4A60 Monogenic autoinflammatory syndromes

Monogenic hereditary autoinflammatory diseases characterised by apparently unprovoked generalised inflammation in the absence of infection or high titre autoantibodies.

4A60.0 Familial Mediterranean fever

FMF is an autoinflammatory disease associated with mutations in pyrin resulting in enhanced IL1 beta production. This results in clinical attacks of inflammation in the form of fever and serositis in the form of peritoneal, pleural or synovial inflammation along with increased acute phase reactants.

4A60.1 Cryopyrin-associated periodic syndromes

CAPS is an autoinflammatory disease associated with gain of function changes in the cryopyrin protein, resulting in inflammasome activation and enhanced IL1 beta production. This results in clinical signs and symptoms of inflammation in the form of rash, fever, joint and eye symptoms with increased acute phase reactants.

Inclusions: Cryopyrinopathies

4A60.2 Tumour necrosis factor receptor 1 associated periodic syndrome

TRAPS is an autoinflammatory disease associated with heterozygous mutations in the gene coding for tumour necrosis factor (TNF) receptor 1 (TNFR1).This results in clinical attacks of inflammation in the form of fever and serositis in the form of peritoneal, pleural or synovial inflammation along with increased acute phase reactants.

4A60.Y Other specified monogenic autoinflammatory syndromes

4A60.Z Autoimflammatory syndrome, unspecified

4A61 SAPHO syndrome

SAPHO syndrome is characterised by a constellation of symptoms and signs including synovitis, acne conglobata or fulminans, palmoplantar pustulosis, hyperostosis and osteitis. Its aetiology is poorly understood.

4A62 Behçet disease

Behçet disease is a disease of incompletely understood aetiopathogenesis characterised by recurrent oral and/or genital aphthous ulcers accompanied by cutaneous, ocular, articular, gastrointestinal, and/or central nervous system inflammatory lesions. Small vessel vasculitis, thrombotic vasculopathy, arteritis and arterial aneurysms may occur. It has a high prevalence from the Eastern Mediterranean across Central Asia to China and Japan.

Inclusions: Adamantiades-Behçet disease

Coded Elsewhere: Transient neonatal Behçet disease (KA07.Y)

4A6Y Other specified autoinflammatory disorders

4A6Z Autoinflammatory disorders, unspecified

Allergic or hypersensitivity conditions (BlockL1‑4A8)

Allergy is a hypersensitivity reaction initiated by a proven immunologic mechanisms.

Hypersensitivity is defined as conditions clinically resembling allergy that cause objectively reproducible symptoms or signs, initiated by exposure to a defined stimulus at a dose tolerated by normal subjects.

Coded Elsewhere: Eosinophilia (4B03)

Hypersensitivity reactions of unspecified nature (4B07)

4A80 Allergic or hypersensitivity disorders involving the respiratory tract

Allergic or hypersensitivity disorders involving the respiratory tract includes several clinically different conditions that can be considered as hypersensitivity disorders of the upper and lower respiratory tract. The classification of these conditions is complex.

Coded Elsewhere: Vasomotor or allergic rhinitis (CA08)

Aspergillus-induced allergic or hypersensitivity conditions (CA82.4)

Chronic rhinosinusitis (CA0A)

Asthma (CA23)

Nasal polyp (CA0J)

Hypersensitivity pneumonitis due to organic dust (CA70)

4A80.0 Drug-induced bronchospasm

Drug-induced bronchospasm is a common clinical manifestation triggered by various drugs. It ranges in severity from mild to severe, and even fatal from post-anoxic brain damage. It can be manifested as an isolated event or in combination with other symptoms as representation of drug-induced anaphylaxis.

4A80.1 Bronchospasm provoked by allergy to food substance

Bronchospasm provoked by allergy to food allergens is clinical manifestation triggered by various foods as a phenotype of food hypersensitivity. It is more frequent in the youngest atopic patients and the most common foods responsible for these reactions are cow milk, peanut, egg and tree nuts. This clinical presentation can be manifested as an isolated event or in combination with other symptoms as representation of drug-induced anaphylaxis.

4A80.Y Other specified allergic or hypersensitivity disorders involving the respiratory tract

4A80.Z Allergic or hypersensitivity disorders involving the respiratory tract, unspecified

4A81 Allergic or hypersensitivity disorders involving the eye

Allergic or hypersensitivity disorders involving the eye includes several clinically different conditions that can be considered as hypersensitivity disorders of the ocular surface. The classification of these conditions is complex.

Coded Elsewhere: Allergic conjunctivitis (9A60.02)

Vernal keratoconjunctivitis (9A60.5)

Giant papillary conjunctivitis (9A60.00)

Irritant contact blepharoconjunctivitis (EK02.11)

Acute atopic conjunctivitis (9A60.01)

Atopic keratoconjunctivitis (9A60.0Y)

Vernal conjunctivitis (9A60.0Y)

4A82 Allergic or hypersensitivity disorders involving skin or mucous membranes

Allergic or hypersensitivity disorders involving the skin and mucous includes a heterogeneous group of disorders involving skin and mucous membranes in which either allergy or hypersensitivity play a part.

Coded Elsewhere: Allergic contact dermatitis (EK00)

Photo-allergic contact dermatitis (EK01)

Allergic contact urticaria (EK10)

Protein contact dermatitis (EK11)

Allergic contact sensitisation (EK12)

Urticaria, angioedema and other urticarial disorders (EB00-EB0Y)

Atopic eczema (EA80)

Allergy to substances in contact with the skin (EK5Y)

4A83 Allergic or hypersensitivity disorders involving the gastrointestinal tract

Coded Elsewhere: Allergic gastritis (DA42.4)

Allergic duodenitis (DA51.3)

Allergic or dietetic colitis (DB33.2)

Allergic or dietetic enteritis of small intestine (DA94.2)

4A83.0 Food-induced eosinophilic gastroenteritis

A disease characterised by eosinophilic infiltration of various layers of stomach and intestine induced by specific food intake in the absence of any known cause of eosinophilia. It can occur in any age and the symptoms vary depending on the site of the intestinal tract involved and degree of eosinophilic inflammation, might include ascites, weight loss, oedema, obstruction.

4A83.1 Food-induced eosinophilic oesophagitis

A chronic, immune or antigen-mediated oesophageal disease characterised by eosinophilic infiltration of oesophageal wall induced by specific food intake in the absence of any known cause of eosinophilia. The symptoms are related to oesophageal dysfunction, including feeding disorders, reflux symptoms, vomiting, dysphagia, and food impaction.

4A83.Y Other specified allergic or hypersensitivity disorders involving the gastrointestinal tract

4A83.Z Allergic or hypersensitivity disorders involving the gastrointestinal tract, unspecified

4A84 Anaphylaxis

Anaphylaxis is a severe, life-threatening systemic hypersensitivity reaction characterised by being rapid in onset with potentially life-threatening airway, breathing, or circulatory problems and is usually, although not always, associated with skin and mucosal changes.

4A84.0 Anaphylaxis due to allergic reaction to food

Rapidly progressive, multi-system and potentially life-threatening reaction to exposure to a food allergen to which the affected individual has previously been sensitized.

Exclusions: obstruction from food aspiration (ND72)

food intolerance (DA96.02)

4A84.1 Drug-induced anaphylaxis

Anaphylaxis attributable to a drug. When severe it may be fatal. This systemic reaction usually develops within minutes to hours of administration of the drug, is often severe and may be fatal. The most frequent drugs causing anaphylaxis are antibiotics, particularly penicillins. Clinically there may be premonitory dizziness or faintness, skin tingling and erythema, followed by urticaria, angio-oedema, bronchospasm, abdominal pain and vasomotor collapse.

Coded Elsewhere: Anaphylaxis due to radiocontrast media (EL80)

4A84.2 Anaphylaxis due to insect venom

Anaphylaxis due to insect venom is a severe systemic hypersensitivity reaction with rapid onset of cutaneous, vascular or respiratory symptoms and signs, either singly or in any combination after exposure (mainly by sting) to an insect venom in a sensitized patient.

Exclusions: Harmful effects of or exposure to noxious substances, Substances chiefly nonmedicinal as to source, Venoms or toxins (NE61)

4A84.3 Anaphylaxis provoked by physical factors

Anaphylaxis provoked by physical factors covers a group of anaphylaxis phenotypes in which physical factors are the main triggers. The most relevant are: exercise-induced anaphylaxis, exercise-induced anaphylaxis dependent on food, cold-induced anaphylaxis.

4A84.30 Exercise-induced anaphylaxis

Exercise-induced anaphylaxis is disorder in which anaphylaxis occurs after physical activity. The clinical features may include pruritus, urticarial weals, flushing, wheezing, and gastrointestinal disturbance including nausea, abdominal cramping, and diarrhoea. If physical activity continues, angioedema, laryngeal oedema, hypotension, and, ultimately, cardiovascular collapse may occur. Exercise-induced anaphylaxis is most commonly associated with IgE-mediated allergy to food whereby anaphylaxis occurs only if ingestion is followed temporally by exercise. Cessation of physical activity usually results in immediate improvement of symptoms.

4A84.31 Cold-induced anaphylaxis

Cold-induced anaphylaxis is triggered by skin cooling. The deaths are directly caused by the anaphylactic reaction due to drowning when swimming in cold water.

4A84.3Y Anaphylaxis provoked by other specified physical factors

4A84.3Z Anaphylaxis provoked by unspecified physical factors

4A84.4 Anaphylaxis due to inhaled allergens

Rapid progressive, multisystem life-threatening reaction due to the exposure to a sensitized inhaled allergen, such as particles from rubber gloves or latex products, animal dander and dust mite.

Use additional external cause code, if desired, to identify agent.

Exclusions: Allergic asthma with exacerbation (CA23.00)

4A84.5 Anaphylaxis due to contact with allergens

Anaphylaxis resulting from skin or mucosal contact with a substance or substances capable of inducing IgE-mediated response in patients previously sensitized.

Use additional external cause code, if desired, to identify agent.

4A84.6 Anaphylaxis secondary to mast cell disorder

Symptoms of anaphylaxis secondary to mast cell disorders result from excessive mast cell mediator release, especially histamine, and may include pruritus and flushing, abdominal pain, diarrhea, dyspnoea, tachycardia, or profound hypotension. It happens in both children and adults, but in adults it can occur even without urticaria pigmentosa lesions. Levels of basal tryptase are constantly high. Fatal anaphylaxis has been described following hymenoptera stings and in the preoperative period.

4A84.Y Other specified anaphylaxis

4A84.Z Anaphylaxis, unspecified

4A85 Complex allergic or hypersensitivity conditions

4A85.0 Drug or pharmacological agents hypersensitivity

Drug hypersensitivity reactions are the adverse effects of pharmaceutical formulations (including active drugs and excipients) that clinically resemble allergy. It belongs to type B adverse drug reactions, which are defined by the World Health Organization as the dose-independent, unpredictable, noxious, and unintended response to a drug taken at a dose normally used in humans. It covers many different clinical phenotypes with variable onset and severity.

Coded Elsewhere: Drug eruptions (EH60-EH6Z)

Drug-induced bronchospasm (4A80.0)

Drug-induced aplastic anaemia (3A70.10)

Aspirin-induced asthma (CA23.20)

Samter syndrome (CA0A.0)

Photoallergic drug reaction (EH75)

Pseudolymphomatous drug hypersensitivity syndrome (EH6Y)

Anaphylaxis due to radiocontrast media (EL80)

4A85.00 Drug-induced liver hypersensitivity disease

Drug-induced liver hypersensitivity disease is a relatively rare condition, but can have serious consequences for the individual patient, public health, regulatory agencies and the pharmaceutical industry. It is characterised by elevation in serum alanine-aminotransferase (ALT), conjugated bilirubin, or combined bilirubin, ALT and alkaline phosphatase (AP) levels > 2 times the upper limit of normal (ULN) and the most frequent related drugs are halothane, tienilic acid, dihydralazine, diclofenac, and carbamazepine.

4A85.01 Drug-induced kidney hypersensitivity

Drug-induced kidney hypersensitivity constitutes an important cause of acute renal failure and chronic kidney disease in present day clinical practice. Different classes of drugs, by virtue of immunological mechanisms initiate specific inflammatory renal responses, which are manifested by different clinical patterns, such as drug-induced interstitial nephritis. The drug-induced kidney hypersensitivity can manifest alone or in combination with other drug-induced organ or system hypersensitivity disorders.

Coded Elsewhere: Acute renal papillary necrosis due to drugs, biological agents or environmental toxins (GB53)

4A85.02 Drug-induced cytopenia

Drug-induced cytopenia is a relatively common immune-mediated cytopenia and the target cells include erythrocytes, leukocytes, platelets and hematopoietic precursor cells in the marrow. The most frequent condition is the drug-induced immune thrombocytopenia and the most frequent implicated drugs are penicillin and structurally related drugs, quinine, quinidine, sulfonamide antibiotics, non-steroidal anti-inflammatory drugs and anticonvulsants.

Coded Elsewhere: Drug-induced immune thrombocytopenia (3B64.12)

Drug-induced secondary agranulocytosis (4B00.01)

4A85.03 Drug-induced vasculitis

Drug-induced vasculitis is an inflammatory vasculopathy associated with drugs of almost every class and accounting for approximately 3% of the vasculitides. Although small vessel disease limited to the skin is the most common form, involvement of blood vessels in virtually every organ system may occur. It can present multiorgan involvement and the mortality is described in up to 10% of cases.

4A85.04 Multiple drug hypersensitivity syndrome

Multiple drug hypersensitivity syndrome is defined as drug allergies to two or more chemically different drugs. It differs from cross-reactivity (due to structural similarities, common metabolic pathways, or pharmacological mechanisms), flare- up reactions (exacerbation of an existing drug allergy by the early switch of therapy to a novel drug), and multiple drug intolerance syndrome.

4A85.0Y Drug hypersensitivity of other specified type

4A85.0Z Drug hypersensitivity of unspecified type

4A85.1 Hypersensitivity to herbal and alternative medical therapies

Hypersensitivity to herbal and alternative medical therapies refers to unpredictable conditions clinically resembling allergy that cause objectively reproducible symptoms or signs, initiated by exposure to herbal and other alternatives medical therapies, such as homeopathy, cupping or acupuncture. Herbal and alternative medical therapies are not customarily regarded as drugs, but can trigger immune and non-immune mediated reactions, which occur in susceptible individuals. These reactions are triggered by doses and procedures usually tolerated by normal subjects.

Exclusions: Adverse cutaneous reactions to herbal, homoeopathic or other alternative therapies (EH78)

4A85.2 Food hypersensitivity

Food hypersensitivity reactions are adverse effects of food or food additives that clinically resemble allergy. Food allergy is an adverse reaction to food mediated by an immunologic mechanism, involving specific IgE (IgE-mediated), cell-mediated mechanisms (non-IgE-mediated) or both IgE- and cell-mediated mechanisms (mixed IgE- and non-IgE-mediated).

Exclusions: food intolerance (DA96.02)

Coded Elsewhere: Oral allergy syndrome (EK10.0)

Contact urticaria due to food allergen (EK10.1)

Anaphylaxis due to allergic reaction to food (4A84.0)

Bronchospasm provoked by allergy to food substance (4A80.1)

4A85.20 Food-induced gastrointestinal hypersensitivity

Food-induced gastrointestinal hypersensitivity covers a group of gastrointestinal hypersensitivity disorders due to food allergens with variable onset, severity, clinical presentation and mechanisms.

Coded Elsewhere: Food-induced eosinophilic gastroenteritis (4A83.0)

Allergic or dietetic colitis (DB33.2)

Food-induced eosinophilic oesophagitis (4A83.1)

Allergic or dietetic enteritis of small intestine (DA94.2)

Food-induced non-IgE-mediated gastrointestinal hypersensitivity (DA42.41)

4A85.21 Food-induced urticaria or angioedema

Urticaria and/or angioedema triggered by ingestion or direct contact of food allergen in sensitized patient.

4A85.22 Allergic contact dermatitis due to food allergen

Allergic contact dermatitis, which most common causal foods are spices, fruits, vegetables. Often occupational because of contact with chemical moieties, oleoresins. Systemic contact dermatitis is a rare variant because of ingestion.

Use additional external cause code, if desired, to identify agent.

Coded Elsewhere: Allergic contact dermatitis due to food flavours or additives (EK00.3)

4A85.2Y Other specified food hypersensitivity

4A85.2Z Food hypersensitivity, unspecified

4A85.3 Allergic or hypersensitivity reactions to arthropods

This includes both local cutaneous and systemic allergic and hypersensitivity reactions to contact with insects (e.g. bees, wasps and fire ants) and other arthropods (e.g. scorpions and spiders). Reactions are usually mediated via the immune system (IgE-mediated or non-IgE-mediated allergy).

4A85.30 Systemic allergic reaction due to Hymenoptera venom

Systemic Allergic Reaction due to Hymenoptera venom due to insect venom is a severe hypersensitivity reaction with rapid onset of cutaneous, vascular or respiratory symptoms and signs, either singly or in any combination after exposure (mainly by sting) to an insect venom in a sensitized patient.

Coded Elsewhere: Anaphylaxis due to insect venom (4A84.2)

4A85.31 Cutaneous allergic or hypersensitivity reactions to Hymenoptera venom

Cutaneous reactions to Hymenoptera venom are hypersensitivity reactions classified into normal local reactions and large local reactions. Large local reaction is defined as a swelling exceeding a diameter of 10 cm which lasts longer than 24 h; blisters may rarely be present.

4A85.32 Cutaneous allergic or hypersensitivity reactions to arthropods

4A85.Y Other specified complex allergic or hypersensitivity conditions

4A85.Z Complex allergic or hypersensitivity conditions, unspecified

4A8Y Allergic or hypersensitivity conditions of other specified type

4A8Z Allergic or hypersensitivity conditions of unspecified type

Immune system disorders involving white cell lineages (BlockL1‑4B0)

Coded Elsewhere: Immunodeficiencies with predominantly antibody defects (4A01.0)

Combined immunodeficiencies (4A01.1)

Defects in the complement system (4A00.1)

Diseases of immune dysregulation (4A01.2)

Other well-defined immunodeficiency syndromes due to defects in adaptive immunity (4A01.3)

4B00 Disorders of neutrophil number

Exclusions: Decreased white blood cell count (MA16.10)

4B00.0 Neutropaenia

Coded Elsewhere: Transient neonatal neutropaenia (KA8D)

4B00.00 Constitutional neutropaenia

This is a granulocyte disorder characterised by an abnormally low number of neutrophils. Neutrophils usually make up 50-70% of circulating white blood cells and serve as the primary defence against infections by destroying bacteria in the blood.

Exclusions: Cartilage-hair hypoplasia (LD27.0)

4B00.01 Acquired neutropaenia

4B00.0Z Neutropenia, unspecified

4B00.1 Neutrophilia

4B00.10 Constitutional neutrophilia

4B00.11 Acquired neutrophilia

Coding Note: Code aslo the casusing condition

Exclusions: Non mast cell myeloproliferative neoplasms (2A20)

4B00.1Z Neutrophilia, unspecified

4B00.Y Other specified disorders of neutrophil number

4B01 Disorders of neutrophil function

Coded Elsewhere: Functional neutrophil defects (4A00.0)

4B01.0 Constitutional disorders of neutrophil function

4B01.00 Disorders of neutrophil adhesion

4B01.01 Disorders of neutrophil chemotaxis

4B01.02 Disorders of neutrophil granule formation or release

4B01.03 Disorders of neutrophil oxidative metabolism

4B01.0Y Other specified constitutional disorders of neutrophil function

4B01.0Z Constitutional disorders of neutrophil function, unspecified

4B01.1 Acquired disorders of neutrophil function

4B01.Z Disorders of neutrophil function, unspecified

4B02 Eosinopenia

4B02.0 Constitutional decrease in eosinophil number

4B02.1 Acquired decrease in eosinophil number

4B02.Z Eosinopenia, unspecified

4B03 Eosinophilia

4B03.0 Constitutional eosinophilia

4B03.1 Acquired eosinophilia

4B03.Z Eosinophilia, unspecified

4B04 Disorders with decreased monocyte counts

4B05 Disorders with increased monocyte counts

4B06 Acquired lymphopenia

4B07 Acquired lymphocytosis

Exclusions: Chronic lymphocytic leukaemia or small lymphocytic lymphoma (2A82.0)

Coded Elsewhere: Infectious mononucleosis (1D81)

4B0Y Other specified immune system disorders involving white cell lineages

4B0Z Immune system disorders involving white cell lineages, unspecified

Certain disorders involving the immune system (BlockL1‑4B2)

Disorders in which disturbed immune regulation plays an important part but which cannot be more precisely located elsewhere in the classification.

Exclusions: Failure or rejection of transplanted organs or tissues (NE84)

Monoclonal gammopathy of undetermined significance (2A83.0)

Coded Elsewhere: Hereditary angioedema (4A00.14)

4B20 Sarcoidosis

Sarcoidosis is a multisystem disorder of unknown cause characterised by the formation of immune granulomas in involved organs. The lung and the lymphatic system are predominantly affected, but virtually every organ may be involved. Other severe manifestations result from cardiac, neurological, ocular, kidney or laryngeal localizations.

4B20.0 Sarcoidosis of lung

4B20.1 Sarcoidosis of lymph nodes

Lymphadenopathy is very common in sarcoidosis. Intrathoracic nodes are enlarged in 75 to 90% of all patients; usually this involves the hilar nodes, but the paratracheal nodes are commonly involved. Peripheral lymphadenopathy is very common, particularly involving the cervical (the most common head and neck manifestation of the disease), axillary, epitrochlear, and inguinal nodes.

4B20.2 Sarcoidosis of the digestive system

This is a syndrome involving abnormal collections of chronic inflammatory cells (granulomas) that can form as nodules in the digestive system.

Coded Elsewhere: Gastritis due to sarcoidosis (DA42.Y)

Oesophagitis due to sarcoidosis (DA24.Y)

4B20.3 Neurosarcoidosis

This refers to sarcoidosis, a condition of unknown cause featuring granulomas in various tissues, involving the central nervous system (brain and spinal cord). It can have many manifestations, but abnormalities of the cranial nerves (a group of twelve nerves supplying the head and neck area) are the most common.

4B20.4 Ocular sarcoidosis

This is a syndrome involving abnormal collections of chronic inflammatory cells (granulomas) that can form as nodules in multiple organs.

Coded Elsewhere: Uveoparotid fever (4B20.Y)

4B20.5 Cutaneous sarcoidosis

4B20.Y Other specified sarcoidosis

4B20.Z Sarcoidosis, unspecified

4B21 Polyclonal hypergammaglobulinaemia

4B22 Cryoglobulinaemia

Coded Elsewhere: Cryoglobulinaemic vasculitis (4A44.90)

Cutaneous microvascular disturbances due to monoclonal cryoglobulins (EF5Y)

4B23 Immune reconstitution inflammatory syndrome

This is a condition seen in some cases of AIDS or immunosuppression, in which the immune system begins to recover, but then responds to a previously acquired opportunistic infection with an overwhelming inflammatory response that paradoxically makes the symptoms of infection worse.

4B24 Graft-versus-host disease

Graft-versus-host disease (GVHD) occurs when lymphoid cells from an immunocompetent donor are introduced into a histo-incompatible recipient incapable of rejecting them. This usually occurs as a result of haematopoietic stem cell transplantation. The main targets attacked by the donor lymphocytes are the recipient’s skin, gastrointestinal tract and liver. Acute GVHD, normally occurring within the first 100 days following transplantation, has a high mortality. The acute phase may be followed by chronic GVHD, which can also arise de novo. This usually presents as a lichenoid rash but can develop into a severe fibrosing disease affecting skin, lungs and liver.

4B24.0 Acute graft-versus-host disease

Graft-versus-host disease presenting normally within the first 100 days of engraftment. It presents most commonly with a maculopapular rash accompanied by fever. The prognosis correlates with the extent of skin involvement, which may progress to widespread epidermal necrolysis, and the severity of gastrointestinal and liver involvement which may manifest as diarrhoea and jaundice respectively. There is a high mortality in severe acute graft-versus-host disease.

4B24.1 Chronic graft-versus-host disease

Chronic graft-versus-host disease (GVHD) presents more than 100 days after engraftment of immunocompetent donor lymphoid cells. It has specific clinical features by which it can be distinguished from acute GVHD. It may arise de novo but frequently follows acute GVHD. Less commonly, it occurs concurrently with acute GVHD. The earlier stages of chronic GVHD are characterised by a widespread lichenoid rash, poikiloderma and involvement of nails and oral mucous membranes. If the disease remains active, progressive sclerosis of the skin and deeper tissues may result in joint contractures, fibrosis of internal organs and severe malabsorption.

4B24.Y Other specified graft-versus-host disease

4B24.Z Graft-versus-host disease, unspecified

4B2Y Other specified disorders involving the immune system

4B40 Diseases of thymus

Exclusions: thymic aplasia or hypoplasia with immunodeficiency (LD44.N0)

Myasthenia gravis (8C60)

Coded Elsewhere: Malignant neoplasms of thymus (2C27)

4B40.0 Persistent hyperplasia of thymus

This refers to a persistent enlargement ("hyperplasia") of the thymus.

4B40.1 Abscess of thymus

4B40.2 Good syndrome

This is a condition that occurs in adults in whom hypogammaglobulinemia, deficient cell-mediated immunity, and benign thymoma may develop almost simultaneously.

4B40.Y Other specified diseases of thymus

4B40.Z Diseases of thymus, unspecified

4B4Y Other specified diseases of the immune system

4B4Z Diseases of the immune system, unspecified