

Lymphopenia

Presentation

Definition

Lymphocyte count $< 1.5 \times 10^9/L$

- Mild lymphopenia: $1-1.5 \times 10^9/L$
- Moderate lymphopenia: $0.5-1 \times 10^9/L$
- Severe lymphopenia $< 0.5 \times 10^9/L$ may predispose to opportunistic infections such as pneumocystis pneumonia, oesophageal candidiasis, herpes zoster and systemic cytomegalovirus infection.

Clinical Findings

- Lymphopenia is a common non specific finding which increases in frequency with increasing age and comorbidities. It is often of no pathological significance. In many cases the lymphopenia is transient and most cases do not require specialist input.
- HIV infection is commonly associated with lymphopenia and is an important diagnosis to exclude in patients with chronic moderate to severe lymphopenia.
- Lymphopenia is a rare association with haematological conditions but can be observed in lymphoproliferative disorders. It is a common finding post chemotherapy and radiotherapy.

Causes

Infection	Acute bacterial/ viral/ fungal Chronic: HIV , Hepatitis B/C
Medication	Steroid usage Immunosuppressive medications Chemotherapy Monoclonal antibody therapy
Systemic disorders	Auto-immune disease Inflammatory bowel disease Renal failure Sarcoidosis
Malignancy	Lymphoproliferative disorders. Solid organ malignancies.
Others	Exercise, Malnutrition, Alcohol abuse, Radiotherapy, Recent surgery, Stress
Congenital immune disorders (rare)	Recurrent severe infections often but not always presenting in childhood, failure to thrive and sometimes auto-immune and inflammatory manifestations.

History

Important Features include:

- Any recent infections
- Risk factors for HIV or hepatitis
- Drug history
- Alcohol history
- Nutritional status

Symptoms and Signs

- Are there constitutional symptoms suggestive of malignancy (fever, weight loss, night sweats)
- Assess for lymphadenopathy and hepatosplenomegaly

Investigations

- If the patient otherwise well with isolated lymphopenia, repeat FBC at 6 months and if clinical condition and blood count stable, suggest no further investigation
- If no worrying features no further investigation required if lymphocyte count > 0.5 in elderly or > 1 in younger adults

Initial Investigations	Investigations to consider
Repeat FBC + Blood film	B12/folate
	U+E
	LFT including gamma glutamyl transferase
	Virology: HIV , Hepatitis B/C
	Auto-antibody screen: ANA, anti-phospholipid antibodies (anticardiolipin antibodies and lupus anticoagulant) if connective tissue disorder suspected
	Serum immunoglobulins and protein electrophoresis

Referral

Indications for referral

- Suggestive evidence of an underlying malignant, haematological or systemic disorder following first line investigations.
- Refer to most appropriate speciality on basis of clinical and laboratory features
- Suspected primary immunodeficiency: suggest refer Immunology (Southampton)
- Persistent severe lymphopenia with recurrent infections: Suggest refer Immunology (Southampton)

References

