MGUS (Monoclonal Gammopathy)

About MGUS

Several disorders are associated with the presence of a monoclonal protein in the blood, including Multiple Myeloma, Lymphoma, Chronic Lymphocytic Leukaemia (CLL) and MGUS.

MGUS is defined by a low level of monoclonal protein (< 30 g/L) and the absence of anaemia, hypercalcaemia, lytic bone lesions, and renal failure attributable to a plasma cell disorder. It is asymptomatic and extremely common - found in 1% of people > 25 years, 3% > 70 years, and up to 10% > 80 years of age.

MGUS is a potential precursor to multiple myeloma (MM) and needs long term clinical follow-up once detected.

Assessment

Bloods - FBC, creatinine, calcium, albumin, serum protein electrophoresis (SPE) with immunoglobulin levels, and urine Bence-Jones Protein.

If fever, malaise, bone pain, lymphadenopathy, hepatosplenomegaly, kidney problems, exclude significant causes of a monoclonal protein:

Multiple Myeloma

- Patients may present with bone pain, lytic lesions in the bones, impaired renal function, hypercalcaemia, isolated normocytic anaemia, or pancytopenia.
- To diagnose, arrange the same tests as for MGUS. However, there will be higher levels of monoclonal protein plus other abnormalities, as above.
- Arrange urgent referral if there is associated spinal cord compression, hypercalcaemia, or renal failure.
- All require haematologist assessment and management

Lymphoma

- Assess for enlarged lymph nodes and/or hepatosplenomegaly. Cytopenias may also be present. If suspected refer for Haematology assessment.

CLL

- Associated with an elevated lymphocyte count. Manage according to the CLL pathway.

Amyloidosis

- May be associated with: Restrictive cardiomyopathy, unexplained gastrointestinal symptoms, peripheral neuropathy and carpal tunnel syndrome.

Management

Calculate the risk of progression to myeloma. MGUS is asymptomatic and any significant symptom or rise in protein level indicates the need for reassessment.

Risk of progression

Overall, approximately 1% with MGUS progress to myeloma each year.

Assess 3 factors:

paraprotein level > 15 g/L	1 point
abnormal SFLC ratio	1 point
non-IgG protein (i.e., IgA, IgM)	1 point

Number of Factors	Risk of Progression at 20 Years
No abnormal factors	2%
1 factor	10%
2 factors	18%
3 factors	27%

Adapted from S.V. Rajkumar, ASH Education Program Book 2005.

Manage those at low risk of progression (i.e., ≤ 2 factors) in general practice.

- Review every 6 to 12 months:
- Ask about weight loss, bone pain, and night sweats.
- Check for lymphadenopathy, hepatosplenomegaly.
- Take bloods for CBC, calcium, creatinine, albumin, SPE with paraprotein levels.
- If lymphocytosis, manage according to the Lymphocytosis pathway.

Request

Request haematology assessment if:

- lymphadenopathy.
- significant rise in the level of monoclonal protein over a few months i.e., > 25% provided the absolute minimum rise is > 5 g/L.
- new significant cytopenias (anaemia, neutropenia, thrombocytopenia).
- high risk of progression to myeloma.
- renal failure or development of bone pain.
- Where appropriate, written advice may be available.