Paraprotein and Excess Light Chains Guidance for Monitoring and Referral to Secondary Care

Oxford University Hospitals NHS
NHS Foundation Trust

Immunoglobulins and serum electrophoresis is performed

Serum electrophoresis result = 'Normal', 'Hypogamma' or 'Polyclonal Hypergamma'

Follow guidance supplied with report if present, do not repeat sample within 3 months unless requested or significant change in clinical picture. Do not refer patient to Clinical Haematology unless additional evidence of lymphoproliferative disease is present

Monoclonal protein identified by serum electrophoresis (Band in gamma)

Laboratory Immunology perform risk stratification of patient based on monoclonal protein, Serum free light chain result, urine electrophoresis, Hb, Ca^{2+}, creatinine and clinical details provided.

Low risk (MGUS)

[1]Low-Intermediate risk of developing active MM.

Shared follow up care of patient, with IMMUNOLOGY LABORATORY alerting patient of pending monitoring bloods, to be taken by, and sent from GP surgery.
GP to take additional timeline samples if patient presents with significant bone pain or fatigue (serum electrophoresis/serum free light chains)

High risk (MGUS)

[2]Intermediate –high risk of developing active MM.

Report sent to GP asking for patient to be referred to OxCom for telephone follow-up

Likely Multiple Myeloma/LPL

Monitoring of patient

Monitoring blood results interpreted by Laboratory Immunology. 2 outcomes possible

1) Patient shows stable results, comment added to serum electrophoresis result stating; 'CONTINUE TO MONITOR'
2) Patient shows clinically significant results, GP contacted by Laboratory Immunology and asked to refer patient to OXCOM or Clinical Haematology

Patient referred to Clinical Haematology

Refer patient to Clinical Haematology

GP contacted by Laboratory Immunology and advised to refer patient to haematology on 2 week wait clinic

Additional interpretative information

Raised IgA levels: Linked with mucosal (Gut/Resp) or liver inflammation, consider checking LFTs. This is a polyclonal antibody response unless accompanied with a serum electrophoresis response that indicates a monoclonal IgA protein. This does not require a repeat test or further information, based on this result alone.

Raised IgM levels: Linked with acute infection/inflammation, liver inflammation or connective tissue disease. Clinically assess patient and pursue investigations as required. This is a polyclonal antibody response unless accompanied with a serum electrophoresis response that indicates a monoclonal IgA protein. This does not require a repeat test or further information, based on this result alone.

Low IgA levels: As an isolated finding is unlikely to be symptomatic. This does not require a repeat test or further information, based on this result alone.

Low IgM levels: Levels of IgM <0.2g/L can be seen in lymphoproliferative disease. Clinically evaluate patient. Do not repeat test or refer patient to Clinical Haematology, based on this result alone

[1]5% risk of progression to MM at 20 years
[2]20% risk of progression to MM at 20 years

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Serum Free light chain result interpretation (CAN ONLY BE INTERPRETED ALONGSIDE SERUM ELECTROPHORESIS RESULT)

Serum free light chain + 'normal/polyclonal hypergamma' serum electrophoresis

Serum free light chain ratio result is assessed by Laboratory Immunology to determine if further investigations of the serum should be performed.
Follow guidance supplied on results with abnormal serum free light chain ratio results.

Additional interpretative information

Abnormal free Kappa OR Lambda: An abnormal free kappa or lambda in isolation is not of clinical significance and simply represents natural variation. If accompanied by an abnormal serum free light chain ratio, follow assessment advice given by Laboratory Immunology. Do not repeat test within 3 months unless instructed to do so or if patient's clinical picture changes. Do not refer patient to Clinical Haematology based on this result alone.

Abnormal free Kappa AND Lambda: Abnormal (normally raised) free kappa and lambda is usually indicative of an inflammatory process or renal impairment in the patient., especially if the serum free light chain ratio is normal. If accompanied by an abnormal serum free light chain ratio, follow assessment advice given by Laboratory Immunology. Do not repeat test within 3 months unless instructed to do so or if patient's clinical picture changes. Do not refer patient to Clinical Haematology based on this result alone.

Serum free light chain + hypogamma on serum electrophoresis

Serum free light chain ratio result is assessed by Laboratory Immunology to determine if further investigations of the serum should be performed.
If no monoclonal protein identified and:

- Abnormal Ratio within 0.3 – 3.0 → **Result of low clinical significance**
  Follow guidance supplied on results with abnormal serum free light chain ratio results.
- Ratio outside of 0.3 – 3.0 → **High risk of non-secretory myeloma**
  GP is contacted by Laboratory Immunology and instructed to refer patient to Clinical Haematology for '2 week wait' clinic

Serum free light chain + monoclonal protein identified on serum electrophoresis

Serum free light chain ratio result is assessed by Laboratory Immunology alongside other monoclonal risk stratification markers (urine electrophoresis, Hb, Ca^{2+}, creatinine and clinical details provided)

- Ratio within 0.3 – 3.0 → **[1]Low-Intermediate risk of developing active MM.**
  Shared follow up care of patient, with secondary care alerting patient of pending monitoring bloods, to be taken by, and sent from GP surgery. GP to take additional timeline samples if patient presents with significant bone pain or fatigue (serum electrophoresis/serum free light chains)
- Ratio outside of 0.3 – 3.0 → **[2]Intermediate –high risk of developing active MM.**
  Report sent to GP asking for patient to be referred to OxCom for telephone follow-up
- Ratio outside of 0.1 – 7.0 → **Likely MM or LPL**
  GP is contacted by Laboratory Immunology and instructed to refer patient to Clinical Haematology for '2 week wait' clinic

Patient referred to Clinical Haematology

Monitoring of patient

Monitoring blood results interpreted by Laboratory Immunology. 2 outcomes possible

1) Patient shows stable results, comment added to serum electrophoresis result stating; 'CONTINUE TO MONITOR'
2) Patient shows clinically significant results, GP contacted by Laboratory Immunology and asked to refer patient to Clinical Haematology

Refer patient to Clinical Haematology

GP contacted by Laboratory Immunology and advised to refer patient to haematology on 2 week wait clinic

[1]5% risk of progression to MM at 20 years
[2]20% risk of progression to MM at 20 years

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PP/FLC GP Referral Guidance
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