## IS MYELOMA ON YOUR RADAR?

## ABOUT THIS TOOL

The Leukaemia Foundation has developed this tool to assist GPs in the diagnosis of myeloma. Myeloma (also called multiple myeloma) is the most rapidly increasing blood cancer in Australia. The diagnosis of myeloma can be challenging as it is reasonably rare with approximately 1500 people diagnosed each year in Australia. A GP may only encounter a few patients in their career and this may lead to limited awareness of the condition.

## WHAT IS MYELOMA?

- Myeloma is a B-cell malignancy characterised by an abnormal expansion of plasma cells in the bone marrow and less commonly in extramedullary sites. It is defined by an overproduction of monoclonal proteins. It is often preceded by MGUS - Monoclonal Gammopathy of Undetermined Significance.
- Myeloma is a cancer of the elderly. $80 \%$ of people diagnosed are over the age of 60 . Myeloma is relatively uncommon under the age of 40 .
- Treatment for myeloma may consist of chemotherapy, radiotherapy, targeted therapy and stem cell transplantation depending on presenting symptoms and age of the person. Five years after a myeloma diagnosis around $70 \%$ of people will not have survived ${ }^{3}$.


## SIGNS AND SYMPTOMS OF MYELOMA

* Bone pain +/- fractures (common)
* Renal dysfunction (about 20\%)
* Recurrent infections (about 25\%) Blood hyperviscosity (occasionally)

A common delay that can occur in myeloma diagnosis is related to the muscoskeletal symptoms. For example back pain can be initially diagnosed as arthritis or sciatica.

## MYELOMA DIAGNOSTIC CRITERIA ${ }^{2}$

Each of the below should be referred to a haematologist

| MGUS | Asymptomatic Myeloma | Symptomatic Myeloma |
| :--- | :--- | :--- |
| Serum M protein <30 g/L | Serum M protein >30 $\mathrm{g} / \mathrm{L}$ | M protein in the serum or urine |
| < $10 \%$ clonal plasma cells | $>10 \%$ clonal plasma cells | $>10 \%$ clonal plasma cells |
| No related organ and tissue <br> impairment | No related organ and tissue <br> impairment | Related organ and tissue <br> impairment* |
| No other B cell lymphoproliferative <br> disorder |  |  |
| No treatment - monitor | No treatment - monitor | Treatment required |

* The four criteria commonly used to define active disease (and therefore the requirement for treatment) can be grouped by the mnemonic "CRAB", which stands for:

1. HyperCalcaemia: elevated serum calcium
2. Renal dysfunction: abnormal serum creatinine
3. Anaemia: haemoglobin $20 \mathrm{~g} / \mathrm{L}$ below lower limit of normal
4. Lytic Bone lesions

## CAUSES OF MYELOMA

The cause of myeloma remains unknown but there are certain factors that may place some people at a higher risk of developing this disease. These include exposure to high doses of radiation and ongoing exposure to certain industrial or environmental chemicals.

## REFERENCES

1 Adapted with permission from Myeloma UK
2 Adapted from the report of the International Myeloma Working Group. Br J Haematol 2003;121:749-757

3 Cancer Survival 2001 - AIHW \& AACR (2004)

Other complications indicative of active disease include:
5. Symptomatic hyperviscosity
6. Amyloidosis
7. Recurrent bacterial infections (more than two episodes in 1 year)

## SERVICES AND SUPPORT FOR PATIENTS

The Leukaemia Foundation provides free services to support people with myeloma. These include information, education, emotional support, transport and accommodation for people required to relocate to better access treatment.

## ACKNOWLEDGEMENTS

We thank Professor Kenneth Bradstock, Chair of the Leukaemia Foundation Medical and Scientific Advisory Committee, General Practice NSW and haematologists and nursing professionals across Australia with a special interest in Myeloma for their assistance. This has been produced with the support of an unrestricted educational grant from Janssen-Cilag.

## MYELOMA DIAGNOSIS PATHWAY ${ }^{1}$

Myeloma is most common in patients over 50, but is increasingly more common in younger patients.


## Common presentations

- Bone pain e.g. non - improving back pain, rib pain
- Anaemia
- Fatigue
- Renal Failure
- Recurrent and / or persistent infections
- Osteoporosis
- In a man
- Rapid onset, markedly symptomatic in a woman


## Other presentations

- Hypercalcaemic symptoms
- Thirst
- Polyuria
- Nausea
- Constipation
- Confusion
- Pathological fracture
- Neurological symptoms of cord compression
- Peripheral neuropathy
- Hyperviscosity


## If you suspect myeloma:

## Important initial tests

- FBE (anaemia in 50\%)
- ESR (usually raised though may be normal in light chain myeloma)
- U\&E and creatinine (renal impairment in 20\%)
- Calcium (raised in 10\%)
- X-ray of any symptomatic area
- Serum Free Light Chain Assay
- Serum and urine electrophoresis and immunofixation


## Referral

Referral to a haematologist or a haematology clinic. Urgency depends on symptoms. Prior phone consultation is usually appropriate.

## Diagnosis

Diagnosis is usually confirmed if two of the following three tests are positive:

- Serum or urinary paraprotein ( $M$ - protein)
- Lytic lesions on X-ray
- Raised plasma cell count on bone marrow biopsy

