






# Multiple myeloma

Multiple myeloma is an insidious haematological cancer of the elderly, and part of a spectrum of plasma cell malignancies. It usually presents in a non-specific fashion and diagnosis is therefore commonly delayed. Registrars need to maintain a high index of suspicion for multiple myeloma in older patients with non-specific symptoms and investigate appropriately.

<p><b>TEACHING AND LEARNING AREAS</b></p> 	<ul style="list-style-type: none"> <li>• <a href="#">Pathophysiology of plasma cell malignancies</a></li> <li>• Range of clinical presentation of myeloma</li> <li>• Differential diagnoses</li> <li>• Appropriate investigations to confirm diagnosis</li> <li>• Approach to staging</li> <li>• Referral pathways for oncological management</li> <li>• General practice management and monitoring of established disease – renal disease, bone disease, prevention of thromboembolic events, infections, immunisations</li> </ul>
<p><b>PRE-SESSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Read the 2017 AAFP article <a href="#">Multiple myeloma: diagnosis and treatment</a>.</li> </ul>
<p><b>TEACHING TIPS AND TRAPS</b></p> 	<ul style="list-style-type: none"> <li>• The median age of onset of multiple myeloma is 70</li> <li>• Have a high index of suspicion as the diagnosis is frequently delayed</li> <li>• <a href="#">Consider myeloma in normochromic normocytic anaemia or unexplained raised ESR</a></li> <li>• Be aware of the CRAB symptoms (hypercalcemia, renal insufficiency, anaemia, bone lesions)</li> <li>• Recurrent infections can be a presenting feature</li> <li>• Many patients present with only laboratory abnormalities, such as anemia, renal disease, or elevated protein levels</li> <li>• Hyperviscosity leads to end organ damage</li> </ul>
<p><b>RESOURCES</b></p> 	<p><b>Read</b></p> <ul style="list-style-type: none"> <li>• 2018 AJGP article <a href="#">Multiple myeloma: Updated approach to management in 2018</a></li> </ul>
<p><b>FOLLOW UP &amp; EXTENSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Registrar to undertake clinical reasoning challenge and discuss with supervisor</li> </ul>

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## Clinical Reasoning Challenge

Gloria Panapolis is a 77 year old widower and a long term patient of your practice. She has had fatigue and weight loss over the past couple of months and another doctor ordered some blood tests. She has been recalled to see you to discuss the results.

HAEMATOLOGY	SPECIMEN: WHOLE BLOOD	GENERAL CHEMISTRY	SPECIMEN: SERUM
HAEMOGLOBIN	113 (125 - 175) g/L	Sodium	135 (135 - 145) mmol/L
RBC	3.92 (4.50 - 6.50)x10 <sup>12</sup> /L	Potassium	4.3 (3.5 - 5.2) mmol/L
HCT	0.37 (0.40 - 0.55)	Chloride	101 (95 - 110) mmol/L
MCV	95 (80 - 99) fL	Bicarbonate	24 (22 - 32) mmol/L
MCH	31 (27.0 - 34.0)pg	Urea	11.6 (4.5 - 10.0) mmol/L
MCHC	330 (310 - 360) g/L	Creatinine	167 (60 - 110) umol/L
RDW	12.5 (11.0 - 15.0)%	eGFR	45 (> 59) mL/min/1.73m <sup>2</sup>
WCC	5.7 (4.0 - 11.0) x10 <sup>9</sup> /L	Calcium	2.64 (2.15 - 2.55) mmol/L
Neutrophils	3.5 (2.0 - 8.0) x10 <sup>9</sup> /L	Adj.Ca	2.66 (2.15 - 2.55) mmol/L
Lymphocytes	1.4 (1.0 - 4.0) x10 <sup>9</sup> /L	Magnesium	0.81 (0.70 - 1.10) mmol/L
Monocytes	0.5 (< 1.1) x10 <sup>9</sup> /L	Phosphate	1.11 (0.75 - 1.50) mmol/L
Eosinophils	0.2 (< 0.7) x10 <sup>9</sup> /L	T.Protein	84 (60 - 81) g/L
Basophils	< 0.1 (< 0.3) x10 <sup>9</sup> /L	Albumin	41 (35 - 50) g/L
PLATELETS	148 (150 - 450) x10 <sup>9</sup> /L	Globulin	44 (23 - 39) g/L
		ALP	75 (40 - 140) U/L
		Bilirubin	7 (< 25) umol/L
		GGT	18 (< 51) U/L
		AST	21 (< 41) U/L
		ALT	28 (< 51) U/L

Her ESR is 45. Other blood tests, including TSH, iron studies, B12/folate and HbA1c are normal. Chest x-ray is reported as normal. Gloria tells you that since she was last seen she has had low back pain which has been waking her at night. She denies any trauma. She remains fatigued but denies any other symptoms on systems review.

QUESTION 1. What are the MOST IMPORTANT diagnoses to consider? List, in note form, as many as appropriate.

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QUESTION 2. What are the MOST IMPORTANT further tests to request at this stage? List as many as appropriate.

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## ANSWERS

### QUESTION 1

What are the MOST IMPORTANT diagnoses to consider? List, in note form, as many as appropriate.

- Occult malignancy
- Occult infection
- Multiple myeloma
- Lymphoma

### QUESTION 2

What are the MOST IMPORTANT further tests to request at this stage? List as many as appropriate.

- IEPG and fixation (serum and urine)
- X-ray lumbosacral spine
- Consider abdo/pelvic CT scan