Plasma Cell Dyscrasias

INDICATIONS FOR TESTING
Individual signs and symptoms suggestive of plasma cell dyscrasia

ORDER
- Serum protein electrophoresis (SPEP) – quantifies M protein
- Serum immunofixation electrophoresis (SIFE) – characterizes M protein
- Serum kappa and FLC ratio
- Urine protein electrophoresis (UPEP) – if primary amyloidosis is suspected

• IgM M protein
  - ≥10% clonal bone marrow plasma cells
  - No myeloma-defining event or CRAB feature
  - ≥1 lytic lesion on skeletal radiography, CT, or PET-CT

• IgG, IgA, IgD, or IgE M protein
  - M protein ≥3 g/dL
  - Elevated FLC ratio
  - M protein <3 g/dL AND No end-organ impairment (see CRAB Features)

BASELINE SCREENING
- CBC plus differential
- Complete metabolic panel
- LDH

OTHER DIAGNOSES
Solitary Plasmacytoma
- Single lesion on imaging confirmed by biopsy showing plasma cells
- No CRAB features
- Normal bone marrow biopsy
- Normal skeletal survey

Primary Amyloidosis
- Amyloid-related systemic syndrome attributed to a plasma cell proliferative disorder
- Positive amyloid staining by Congo red of any tissue
- Evidence that amyloid is light-chain related
- Evidence of monoclonal plasma cell proliferative disorder

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Abbreviations
BM Bone marrow
CRAB Calcium (elevated), renal insufficiency, anemia, bone lesions
CT Computed tomography
FLC Free light chain
LDH Lactate dehydrogenase
MGUS Monoclonal gammopathy of undetermined significance
MRI Magnetic resonance imaging
PET Positron emission tomography

Myeloma-Defining Events
- Clonal bone marrow cells ≥60%
- Serum involved/uninvolved FLC ratio of ≥100
- >1 focal lesion on MRI ≥5 mm

CRAB Features
- Elevated calcium: serum calcium >11 mg/dL
- Renal insufficiency: serum creatinine >2 mg/dL or creatinine clearance <40 mL/min
- Anemia: hemoglobin value <10 g/dL
- ≥1 lytic lesion on skeletal radiography, CT, or PET-CT