Case Report

Unexpected Hematological Malignancy: Multiple Myeloma Detected in a Post-MI Patient After Multiple Hospital Encounters

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Abstract

Background: Multiple myeloma (MM) is a plasma cell malignancy often presenting with anemia, bone pain, renal dysfunction, and hypercalcemia. However, in elderly patients with comorbidities such as coronary artery disease (CAD), MM may remain undiagnosed due to overlapping symptoms with cardiovascular pathology.

Keywords: Multiple Myeloma, Monoclonal Gammopathy, Post-Myocardial Infarction Complications, Atypical Presentation in Elderly.

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Introduction

Multiple myeloma (MM) is a plasma cell neoplasm characterized by the accumulation of clonal plasma cells in the bone marrow, leading to organ dysfunction. It typically presents with anemia (anemia out of proportion to the degree of renal dysfunction), bone pain, renal failure, and hypercalcemia. However, incidental detection in asymptomatic or minimally symptomatic elderly patients with other comorbidities—such as coronary artery disease—can delay diagnosis and treatment.[1-3]

Case Presentation

We report the case of an 87-year-old male with a history of Coronary Artery Disease presenting as myocardial infarction (MI) who also underwent coronary stenting. He presented with persistent chest pain, intermittent high-grade fever, progressive dyspnea, and generalized weakness. He was diagnosed with Heart Failure in view of severe anemia, clinically as Heart Failure precipitated co-existing systemic infection. Laboratory evaluation revealed microcytic normochromic anemia (Hb 6.0 g/dL), massive elevation of ESR (110 mm/hr), and significant proteinuria. Clinical Suspicion of Multiple Myeloma (MG) was suspected and was evaluated thereafter. Further investigations demonstrated monoclonal gammopathy with an M band on serum protein electrophoresis and Bence-Jones proteinuria. Bone marrow examination confirmed multiple myeloma with >45% plasma cells and characteristic histopathological features as shown in photomicrograph images.

Case Report: An 87-year-old male, with a history of two myocardial infarctions (2011 and 2025) and stenting, presented with:

- Insidious-onset chest pain for 4 months (dull, non-radiating, no associated diaphoresis or palpitations)
- High-grade, intermittent fever for 20 days with generalized body ache
- Sudden-onset breathlessness, rapidly progressive
- Scanty sputum with one episode of hemoptysis
- Watery diarrhea (10–12 episodes/day) and frequent vomiting (3–4/day)
- Severe fatigue, orthopnea, pedal edema
- Significant weight loss (7 kg in 15 days)

Past Medical History:

- Chronic smoker (10 bidis/day for 65 years)
- Known CAD with two prior MIs (stents placed post-MI)
- Hypertension and benign prostatic hypertrophy (under treatment)

General Examination:

- Pallor present
- Bilateral pedal edema
- Vitals stable
- Chest auscultation: Bilateral basal crepitations, reduced air entry.

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Investigations:

Laboratory Findings:

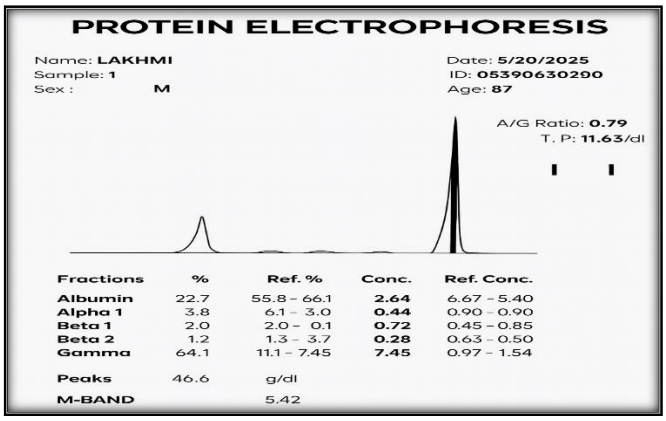
Parameter	Value	Reference Range
Hemoglobin	6.0 g/dL	13–17 g/dL
TLC	5260/mm³	4000–11000/mm³
Platelet count	2.26 lakh/mm³	1.5–4.5 lakh/mm³
ESR	110 mm/hr	<20 mm/hr
Serum Calcium	7.5 mg/dL	8.5–10.5 mg/Dl
Sodium	131 mmol/L	135–145 mmol/L
Potassium	5.0 mmol/L	3.5–5.1 mmol/L
TSH	6.60 µIU/mL	0.5–5.0 µIU/mL
Serum PSA	4.60 ng/mL	<4.0 ng/mL (age-adjusted)
Albumin - 3.3 Globulin - 7.7 A:G - 0.4		

Urine Protein Electrophoresis:

- 24-hour proteinuria: 954 mg
- Gamma region: 97.7%
- M-Band: Present (monoclonal bands in gamma region)
- Bence Jones Proteins: Present (Free lambda type)

Microalbumin (Urine 24 hrs):

- Microalbumin: 21.4 mg/dL
- Total 24-hour excretion: 32 mg



Immunoassay Parathyroid Hormone Method: CLIA – 12.90 pg/ml [Ref - 13.60 - 85.80]

Immunoglobulin Profile, Serum	Observed Value	Unit	Biological Reference Interval
IgG Total Antibody, Serum	9487.48	mg/dl	700-1600
IgA Total Antibody, Serum	29.144	mg/dl	70-400
IgM Total Antibody, Serum	35.562	mg/dl	40-230
Iron profile			
Iron Method: Pyridyl Azo Dye	85.00	microgram/dl	49 – 93
Direct TIBC Method: Chromazurol B	155	microgram/dl	261 – 462
Transferrin Method: Immunoturbidimetric, End Point	80	microgram/dl	206 – 381

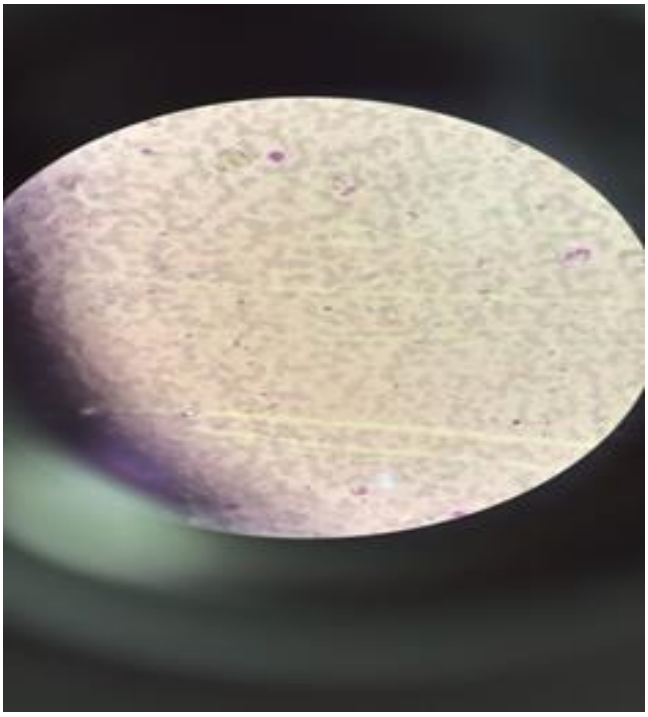
Protein Electrophoresis, Urine 24 Hours (24 Hrs Urine)

Investigations	Observed Value	Unit	Biological Reference Interval
Total Proteins	954.00	mg/24 hrs	28-141
Electrophoretic Zones – Relative Concentartion (%)			
Albumin	2.30		
Alpha – 1	-		
Alpha – 2	-		
Beta	-		
Gamma	97.70		
M-Spike	See Comment		
Comment	Two Bands Seen. Band 1 (0.24 Gms/24 hours) Band 2 (0.28 Gms/24 hours) seen in Gamma Region.		

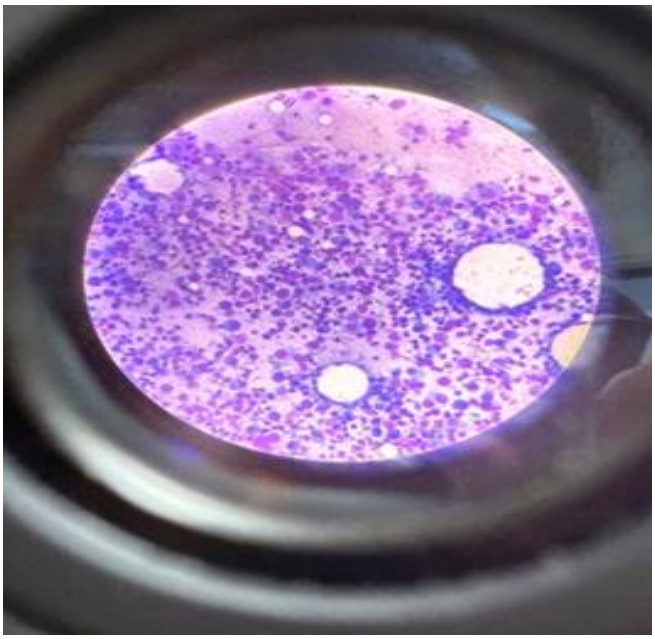
Urine R/M:

Physical Examination		
Colour	Yellow	
Ph	5.50	5.00 – 8.00
Specific Gravity	1.010	1.010 – 1.030
Chemical Examination		
Protein Urine	2+	
Glucose Urine	Negative	
Urobilinogen	Negative	
Microscopic Examinaton		

Rbc	Nil	Millions
Pus Cells	0-1	
Epithelial Cells	0-1	
Casts	Nil	0-2 Hyaline Casts
Crystals	Nil	



Peripheral Smear Image:
- Hypochromic microcytic RBCs
- Rouleaux formation suggestive of elevated serum proteins



Bone Marrow Biopsy:
- Dense sheets of plasma cells
- Replacement of normal hematopoietic elements.

Differential Diagnosis:
1. Multiple Myeloma (confirmed)
2. Waldenström Macroglobulinemia
3. Chronic lymphocytic leukemia with plasmacytoid differentiation
4. Metastatic bone marrow infiltration
5. Amyloidosis (AL type)
6. Anemia of chronic disease with reactive plasmacytosis
7. Tuberculosis or chronic infection (less likely with marrow plasmacytosis)

Why multiple myeloma?

Though patient had only renal impairment and anemia features out of crab criteria, we thought of multiple myeloma because of the following:
1. Elderly male with CKD without an identifiable cause for it (without diabetes without hypertension)
2. 24-hour urine protein of patient was raised, and in urine routine microscopy, urinary protein was 2+.
3. Albumin: globulin reversal was present in the patient.
4. Anemia was present in patient (Hb -5.20)

Discussion

This case highlights a complex interplay between cardiovascular and hematologic pathology in older people. The patient, with a history of MI and stenting, was initially suspected of post-infarction sequelae, infection, or heart failure. However, detailed hematological workup due to anemia, elevated ESR, and rouleaux formation revealed Multiple Myeloma.[4,5]

The presence of monoclonal bands in the gamma region, Bence-Jones proteinuria, low Calcium, and a Plasma cell infiltrate in the bone marrow confirmed the diagnosis.

MM in older people often presents atypically and is underdiagnosed when symptoms overlap with chronic comorbidities such as:
- Heart failure
- Chronic renal insufficiency
- Malnutrition or cachexia

Additionally, MM can aggravate cardiac burden through anemia and hyperviscosity, potentially contributing to cardiac events or worsening angina.

Treatment: Intravenous Proton Pump Inhibitors, Intravenous Antibiotics, Antipyretics, Multi-Vitamins, Laxatives, and supportive and symptomatic care were provided.

Hematooncology Oncology Consultation was obtained, and the patient was referred to a Tertiary Care Centre for Advanced Chemotherapeutic Management.

Conclusion

Multiple myeloma should be a differential diagnosis in elderly patients with anemia, weight loss, and unexplained systemic symptoms—especially when associated with raised ESR or proteinuria. Incidental diagnosis in this post-MI patient

exemplifies the importance of comprehensive evaluation beyond cardiac pathology in geriatric medicine.

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Conflicts of interest
There are no conflicts of interest.

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