28TH KCOA ANNUAL SCIENTIFIC CONFERENCE

Pernicious Anemia Presenting with Severe Pancytopenia & Neuropsychiatric Symptoms

A Case Report at Mama Lucy Kibaki Hospital

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Presenter & Clinical Affiliation

Omondi Javan

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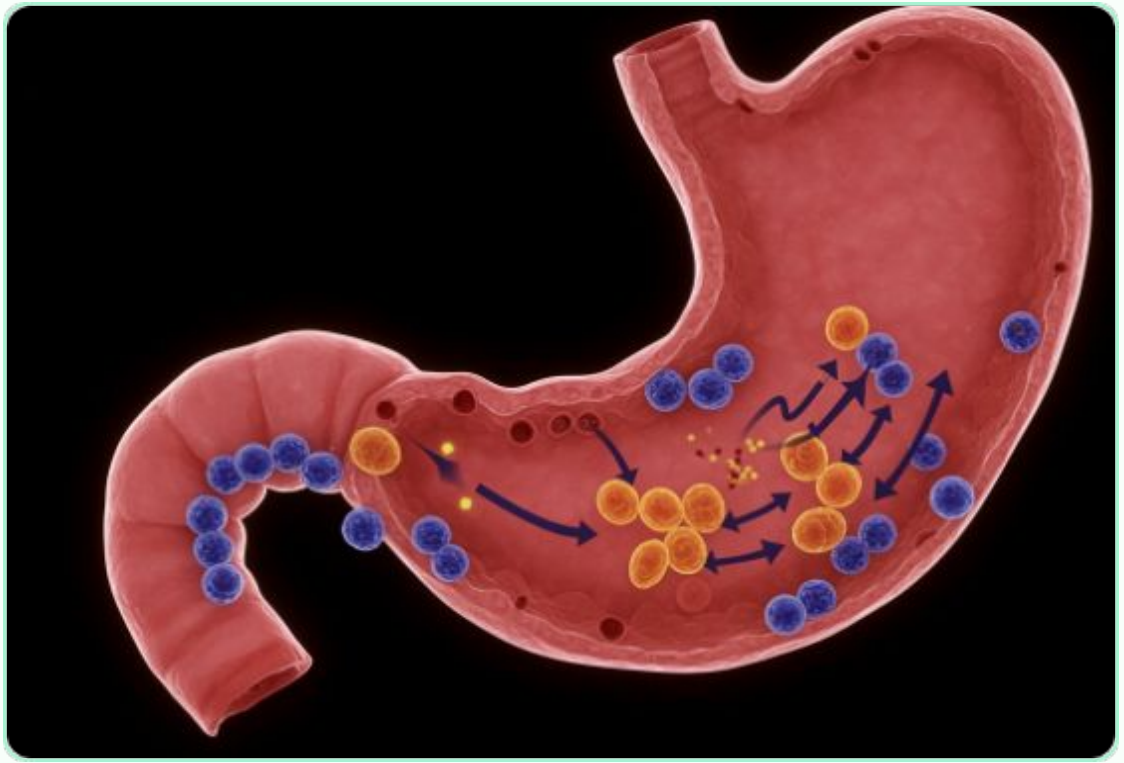
Clinical Site

Institution: Mama Lucy Kibaki Hospital

Location: Department of Internal Medicine, Nairobi, Kenya

Autoimmune Gastric Parietal Destruction

Autoantibodies target intrinsic factor (IF) and parietal cells, completely blunting vitamin B12 absorption in the terminal ileum.



Essential Co-Factor Dual Roles



DNA Synthesis

Drives rapid cellular turnover during erythropoiesis in bone marrow.



Myelin Maintenance

Preserves central and peripheral nervous system axonal integrity.

Global Bone Marrow Failure Risk

⚠Beyond Classic Anemia

Severe B12 depletion mimics primary hematological malignancies, manifesting as full pancytopenia alongside demyelinating neuropsychiatric features.

Masked Megaloblastosis

Normal MCV

Diagnostic Delays & Misdiagnosis

Severe pancytopenia or co-existing conditions mask expected macrocytosis, leading clinicians to suspect primary bone marrow failure.

2-Week Neuropsychiatric Onset

Confusion

Intermittent disorientation and cognitive clouding.

Hallucinations

Both visual and auditory hallucinatory episodes.

1-Week GI & Anemic Cascade

Vomiting & Dysphagia
Postprandial non-bilious emesis.

Oral Ulcerations
Tongue ulcers & mucosal bleeding.

Severe Fatigue
Profound dizziness and weakness.

Empirical Outpatient Pitfall

Prior Malaria Treatment

Patient received empirical outpatient antimalarial therapy without prior diagnostic confirmation, yielding zero clinical improvement.

Clinical Signs & Neuro Assessment

Vitals & Mucosa

- BP: 99/61 mmHg (Borderline)
- HR: 63 bpm
- Marked conjunctival & palmar pallor

CNS Exam

- GCS: 14/15
- Lower limb power: 3/5
- Upper limb power: 4/5

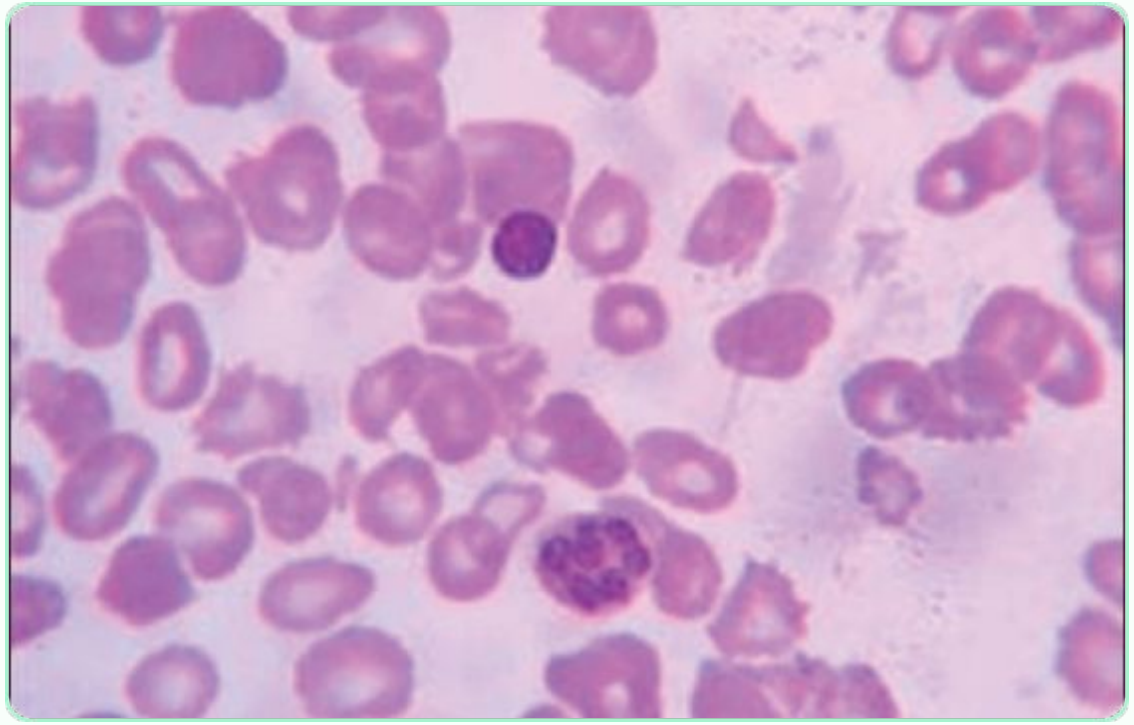
Severe Anemia & MCV Paradox

5.1 g/dL
Profound Hemoglobin Depletion

88 fL
Normocytic MCV Range

Pancytopenia & Morphology

PBF revealed prominent leucopenia, thrombocytopenia, poikilocytosis, and ovalocytes confirming bone marrow failure.



Definitive B12 & Antibody Confirmation

90 pg/mL
Critically Low Vitamin B12
(Ref: 197–771)

Positive
Intrinsic Factor Antibodies
(Confirms Pernicious Anemia)

2093 ng/mL
Elevated Ferritin
(Folate >51.9 ng/mL)

Ruling Out Primary CNS & Abdominal Pathology

Head CT & LP

Normal. Excluded intracranial lesions and acute CNS infections.

Abdominopelvic US

Normal organ architecture. Stool occult blood positive.

Emergency Transfusion Protocol

3 Units PRC

Transfused to Correct Profound Tissue Hypoxia

Lifelong Cyanocobalamin Dosing

Loading Phase
1000 µg IM Daily
x 7 Days

Intermediate
1000 µg IM Weekly
x 4–6 Weeks

Maintenance
1000 µg IM Monthly
Lifelong

Gastric Malignancy Screening

Scheduled OGD & Biopsy

Evaluating autoimmune atrophic gastritis and screening for gastric neuroendocrine or adenocarcinoma risks.

Reversible Neuropsychiatric Deficits

Rapid Parenteral Window

Early IM B12 administration halts demyelination and fully reverses cognitive/motor impairment before structural cord lesions become permanent.

Key Takeaways for Clinicians

Look Beyond MCV

Never exclude B12 deficiency based on normal MCV in pancytopenia.

Early Assay & Antibodies

Test serum B12 and IF antibodies in unexplained marrow failure.

Prompt IM Replacement

Rapid B12 loading prevents permanent neuro disability.

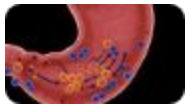
Thank You!

Questions & Discussion

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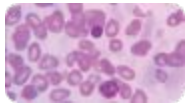
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Image Sources



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