

Case of Pancytopenia with Recurrent Jaundice

DEPT OF MEDICINE

DR. D. Y. Patil hospital and medical college

Case:-

- 59 year old male came to our OPD with complaints of

- Generalized weakness
- Breathlessness
- yellowish discoloration of urine and eyes.
- Loose stools on and off

Since 2 months

Past history

- History of recurrent episodes of yellowish discoloration sclera and urine over the past 4 years which were present for few days and subsided on treatment.
- Bleeding per rectum since 4 years.
- History of 4 blood transfusions over the past 4 years.
- History of hemorrhoidectomy 2 years back.
- Chronic alcoholic for 6 years. Abstinence since 10 years.
- No previous medical documents were available.

On examination

- Conscious, oriented, Averagely nourished
- Pulse : 100/min
- BP : 110/70 mm Hg
- Afebrile
- Pallor + + +
- Icterus +
- No Cyanosis, Clubbing, Lymphadenopathy, Edema
- S/E :
 - CVS: normal
 - RS: normal
 - P/A: soft, non tender, no Hepato-Splenomegaly, no free fluid
 - CNS: normal

Laboratory investigations on admission:

- Hb: 4.0 gm%
- PBS: macrocytic normochromic
- RBC indices
 - PCV- 12.0%
 - MCV-118.8fl
 - MCH- 31.8pg
 - MCHC-33.3g/dl
- TLC: 2400/mm³
 - P- 65%, L- 30%, E- 01%, M- 04%
- Platelet count: 60,000/mm³

LIVER FUNCTION TESTS

- **S. Bilirubin: 2.3mg%**
 - Direct: 0.6mg%
 - **Indirect : 1.7mg%**
- S. ALT(SGPT): 15 IU/L
- S. AST(SGOT): 41 IU/L
- S. ALP: 51 IU/L
- PT/ INR: 1.2
- S. Protein: 6.0 gm%
 - S. Albumin: 3.7gm%
 - S. Globulin: 2.3gm%

- Blood Urea: 29 mg %
- S. Creatinine: 0.9 mg%
- S. Calcium: 9.7 mg %
- S. Phosphorous: 4.5 mg%
- S. Uric Acid: 8.2 mg%
- S. Amylase: 60 IU/L
- S. Lipase: 36 IU/L

- Sr. B12 levels - **183 pg/mL** (191-663 pg/ml)
- Serum folate - 2.5 ng/ml (2.5- 5 ng/ml)
- S. Sodium: 137 mmol/l
- S. Potassium: 4.2 mmol/l
- S. Magnesium: 2.0 mg%
- Random Blood Sugar : 107 mg%
- TFT - within normal limits.
- HIV: non-reactive
- HBsAg: negative
- Anti HCV: negative
- HB electrophoresis was normal

Diagnosis-

- Pancytopenia with Mild Unconjugated Hyperbilirubinemia was evaluated further.

- Fasting lipid profile:
 - S. Cholesterol: 82 mg%
 - S. Triglycerides: 76 mg%
 - S. HDL: 19 mg%
 - S. LDL: 43 mg%
- Stool for OB: negative
- Stool for fat globules: positive
- Urinary D xylose test (25gm) – 3gm

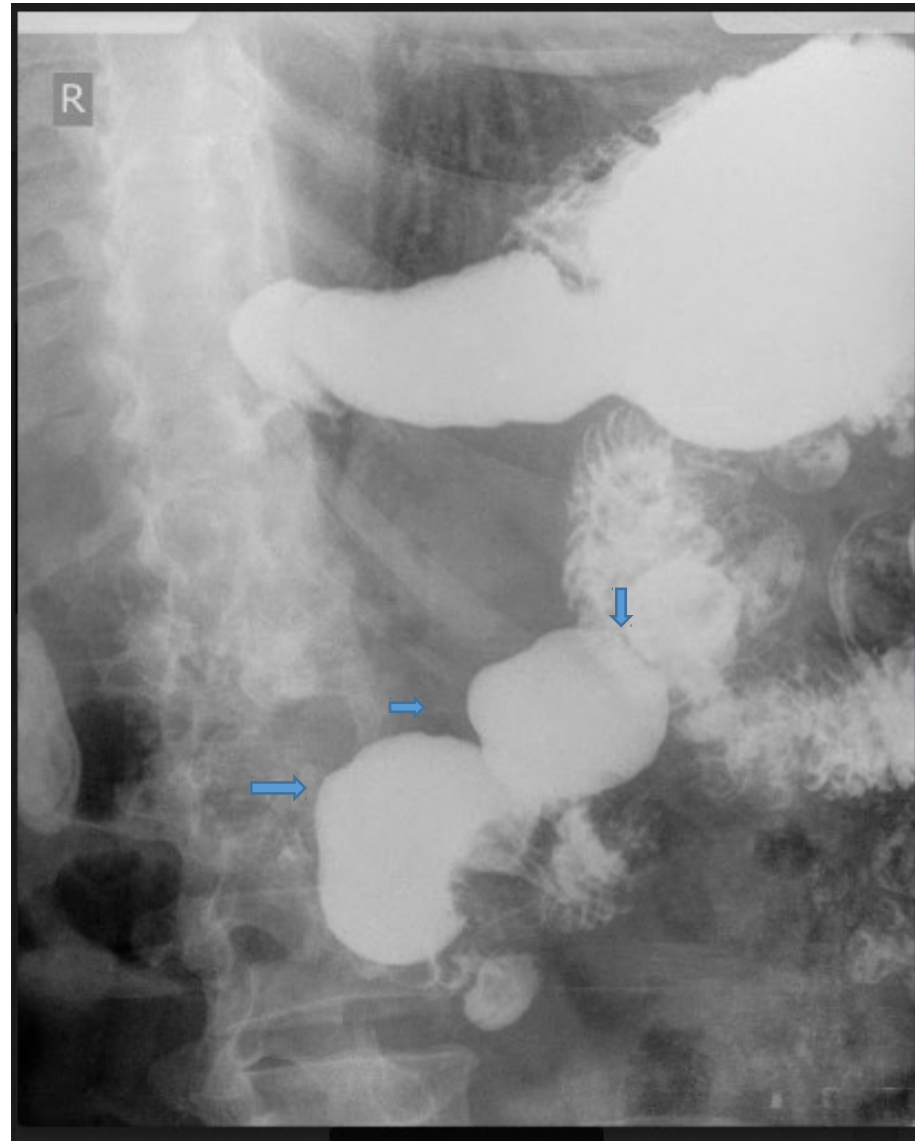
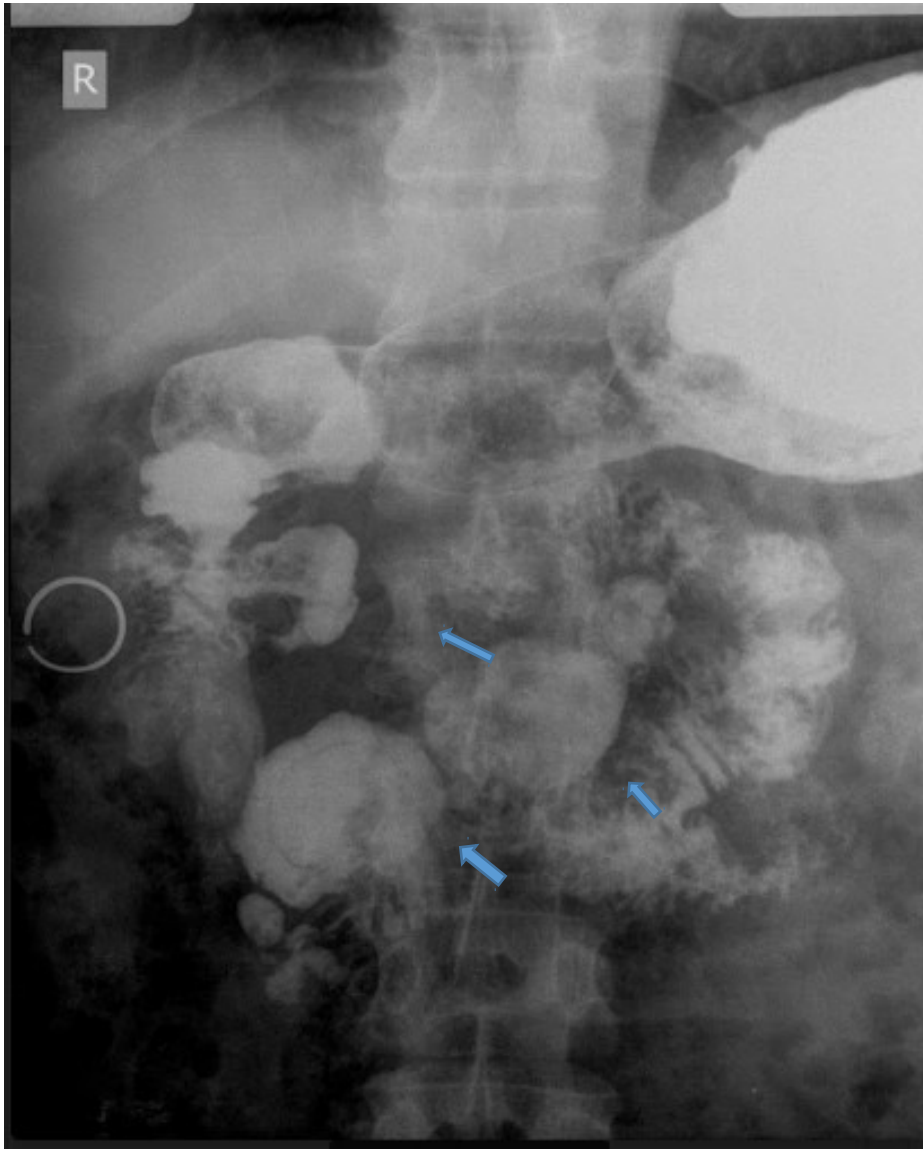
- Bone marrow aspiration showed hypercellular marrow with erythroid hyperplasia.

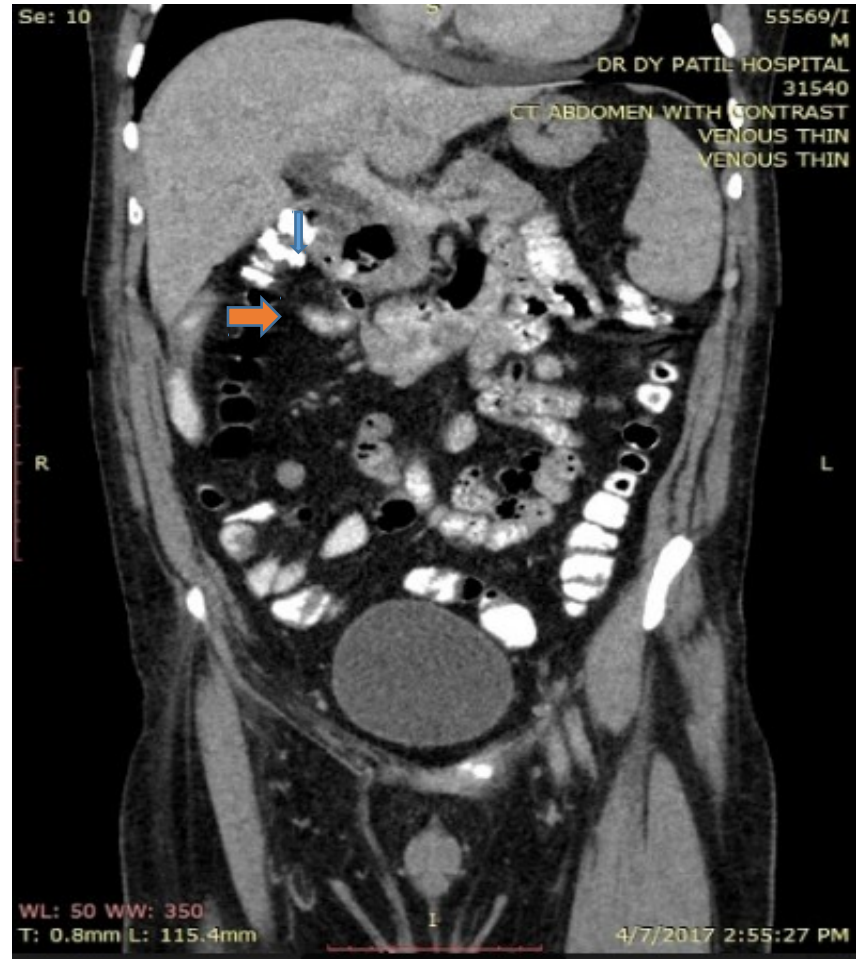
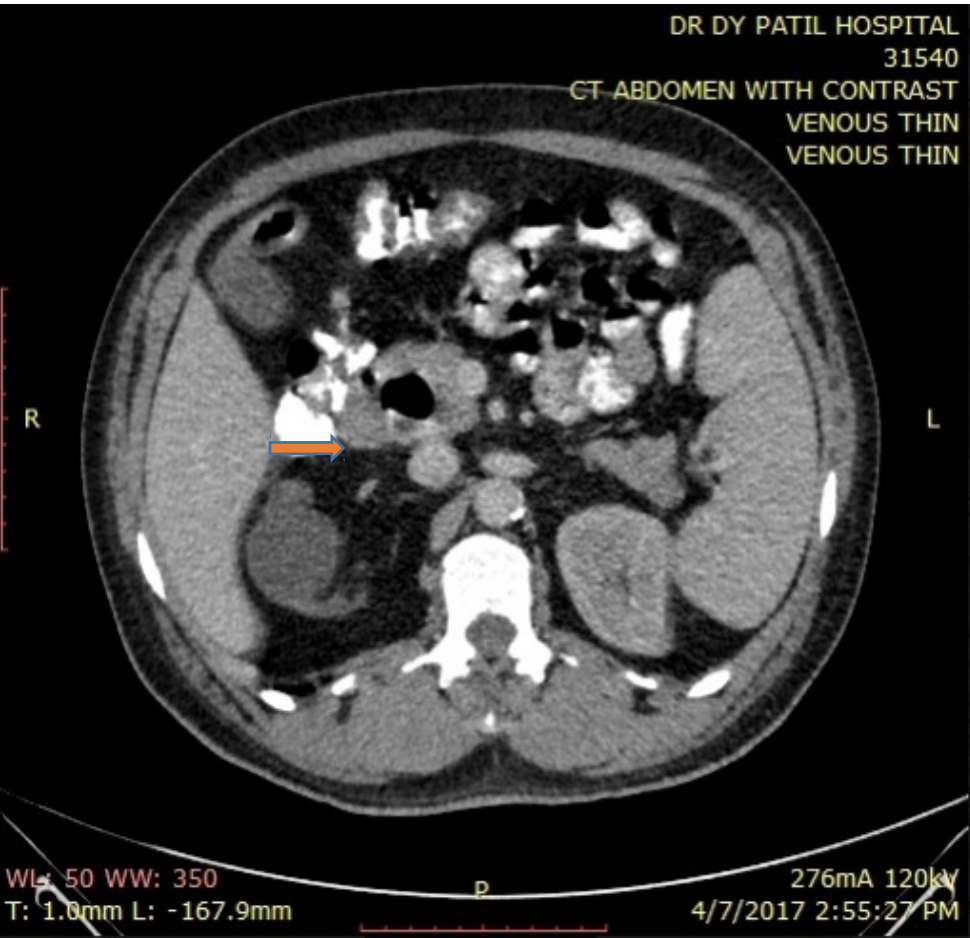
Giant metamyelocytes, megakaryocytes seen.

- OGD scopy suggestive of lax Lower oesophageal sphincter, grade B reflux esophagitis and sliding hiatus hernia

- USG Abdomen + Pelvis:
 - Right kidney shows raised echogenicity with partial to complete loss of CMD and entire kidney shows multiple cysts largest of size 54x52mm.
 - Rest normal
 - Portal doppler normal
- CT Abdomen + Pelvis with contrast:
 - Mild IHBR dilatation and dilated CBD secondary to duodenal diverticulum from second part causing compression of lower CBD.
 - Small sized right kidney with loss of CMD due to chronic obstructive changes caused by a staghorn calculus and 2 calculi at upper and middle pole. Non excretion of contrast from right kidney. 2 cystic lesions, largest measuring 7.4x5.8cm

- Barium meal follow through:
 - Outpouching suggestive of diverticulum arising from medial wall of second part of duodenum, superior aspect of third part of duodenum and proximal jejunum.





- Severe Megaloblastic Anemia due to Malabsorption caused by bacterial overgrowth in extensive duodenal and jejunal diverticulosis.

- Patient was treated with
 - Inj. Cyanocobalamin 1000 mcg OD for one week, followed by alternate days for one week, and later on once weekly for one month.
 - Advised to continue Inj. Cyanocobalamin 1000mcg once a month for 6 months.
 - Folate supplementation was given
 - Tab. Doxycycline 100mg BD for 3weeks.
 - Tab. Rifaxamine 550mg BD for 3weeks

- He showed improvement after treatment

- Hb - 6.4g%
- TLC - 10600/cumm
- Platelet count - 2.4 lakh/cumm

- Reticulocyte count - 5%
- Serum LDH - 246 IU/L

Discussion

- The cause of diverticula is largely unknown. Many patients have an underlying intestinal motility disorder.
- Periodic elevated intraluminal pressures can lead to herniation through areas of weakness at the mesenteric border where blood vessels penetrate the muscularis.
- Patients with multiple duodenal diverticula may develop bacterial overgrowth.
- Malabsorption may result from associated bacterial overgrowth.

- Bacterial overgrowth syndromes comprise a group of disorders with diarrhea, steatorrhea, and macrocytic anemia whose common feature is the proliferation of colonic-type bacteria within the small intestine.
- This bacterial proliferation is due to stasis caused by impaired peristalsis
- Patients with jejunal diverticula usually are asymptomatic unless bacterial overgrowth within the diverticula is sufficient to cause vitamin B12 deficiency, by uptake of the vitamin by the bacteria, or malabsorption resulting from bacterial deconjugation of bile salts and impaired lipid digestion.

- “Often the diagnosis of bacterial overgrowth is suspected clinically and confirmed by response to treatment.”¹
- The administration of broad-spectrum antibiotics usually constitutes effective treatment that suppresses bacterial flora.²
- Diverticula of the duodenum are often found near the ampulla of Vater, but rarely cause obstruction of the bile duct.
- If obstruction occurs it is partial and jaundice intermittent.
- Duodenal diverticula are typically diagnosed on upper GI X-rays. They are easily missed on endoscopy unless a side-viewing endoscope is used.

References

1. Kasper, D., Fauci, A., Hauser, S., Longo, D., & Jameson, J. (2015). *Harrison's Principles of Internal Medicine*. New York: McGraw-Hill Education.
2. Sleisenger, M. H., Feldman, M., Friedman, L. S., & Brandt, L. J. (2010). *Sleisenger and Fordtran's gastrointestinal and liver disease: Pathophysiology, diagnosis, management*. Philadelphia: Saunders/Elsevier.

Thank you