

A CASE OF DIALYSIS DEPENDANT OXALATE NEPHROPATHY POST ROUX-EN-Y GASTRIC BYPASS IN CARCINOMA STOMACH WITH BILE LEAK – CASE REPORT

**Kumari Monika, Sanjeev V Nair, Karthikeyan Balasubramanian**

Saveetha medical college and hospital , Chennai

Poster number - 33

Email address- [drmonikamgims@gmail.com](mailto:drmonikamgims@gmail.com)  
[drmonikabhadani1984@gmail.com](mailto:drmonikabhadani1984@gmail.com)

First name- Kumari

Last name- Monika

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## Abstract

### □ Background

- ❖ Oxalate nephropathy - potential cause of ESRD & longterm dialysis dependency.
- ❖ Enteric causes of secondary hyperoxaluria are Crohn's disease, celiac sprue, chronic pancreatitis, enteric and gastric bypass surgery, increased dietary oxalate or oxalate precursor, decrease oxalate degradation secondary to reduced intestinal colonization.
- ❖ Oxalate is both secreted & absorbed in gastrointestinal tract.

### □ Case presentation

A middle aged male, postoperative case of subtotal gastrectomy with Roux en Y anastomosis for carcinoma stomach with history of bile leak for 2 month with high oxalate diet.

He presented with AKI ,ATN with acute TIN with intratubular oxalate crystal brightly birefringent on polarizing microscope.

# INTRODUCTION

- Oxalate nephropathy is a rare, but important cause of acute & chronic kidney disease.
- It may be either primary hyperoxaluria or secondary hyperoxaluria.
- Primary hyperoxaluria is an inborn error of metabolism of glyoxylate and oxalate because of deficiency of enzymes.

- Secondary hyperoxaluria may be because of
  - (i) increased dietary oxalate or oxalate precursor (such as ethylene glycol or ascorbic acid) intake,
  - (ii) fat malabsorption from various causes (chronic pancreatitis, pancreatectomy, Roux-en-Y gastric bypass surgery, short bowel syndrome, Crohn's disease, and use of orlistat), and
  - (iii) decreased intestinal oxalate degradation secondary to reduced intestinal colonization with *Oxalobacter formigenes*.

# CASE PRESENTATION

- A 51year male patient came with complaints of vomiting, persistent hiccups, decreased urine output since 1 week with a history of Ca stomach.
- Recent subtotal gastrectomy with Roux en Y gastric bypass 3 month back.
- He had history of recurrent vomiting, loss of appetite, pain abdomen, steatorrhoea with normal baseline renal function in perioperative evaluation & follow up.

- He was evaluated and found to have severe anemia with acute kidney injury with bland urinary sediments with no evidence of obstruction or abnormality in USG KUB & CT Whole abdomen plain.
- He was initiated on hydration & symptomatic therapy, but renal parameters didn't improve.
- He was initiated on hemodialysis & Renal biopsy done with no post biopsy complication

- Renal biopsy report was suggestive of acute tubular injury with acute tubulointerstitial nephritis with intratubular oxalate crystal brightly birefringent on polarizing microscope with IFTA 5-10%.

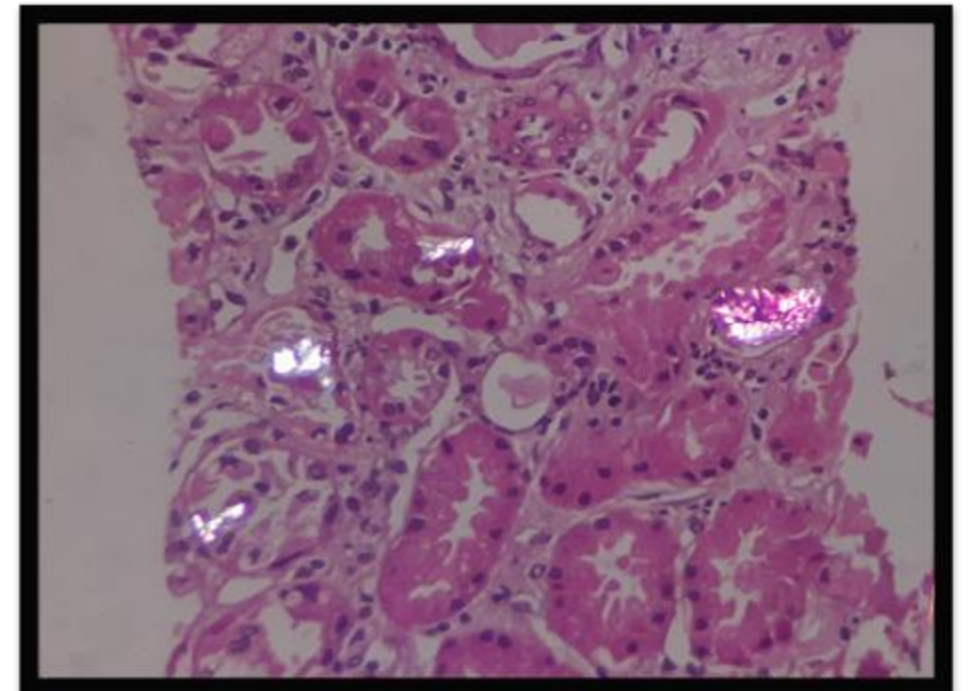
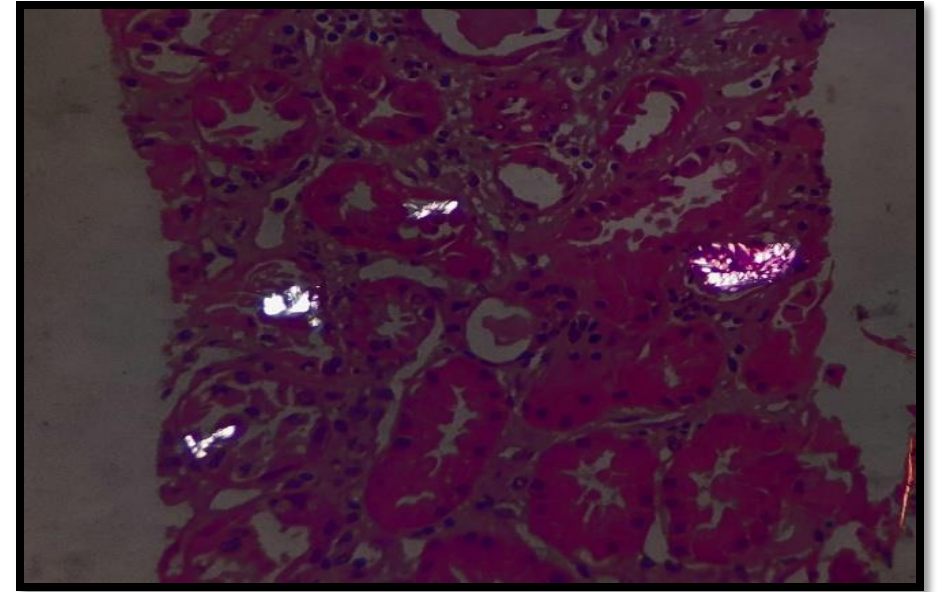
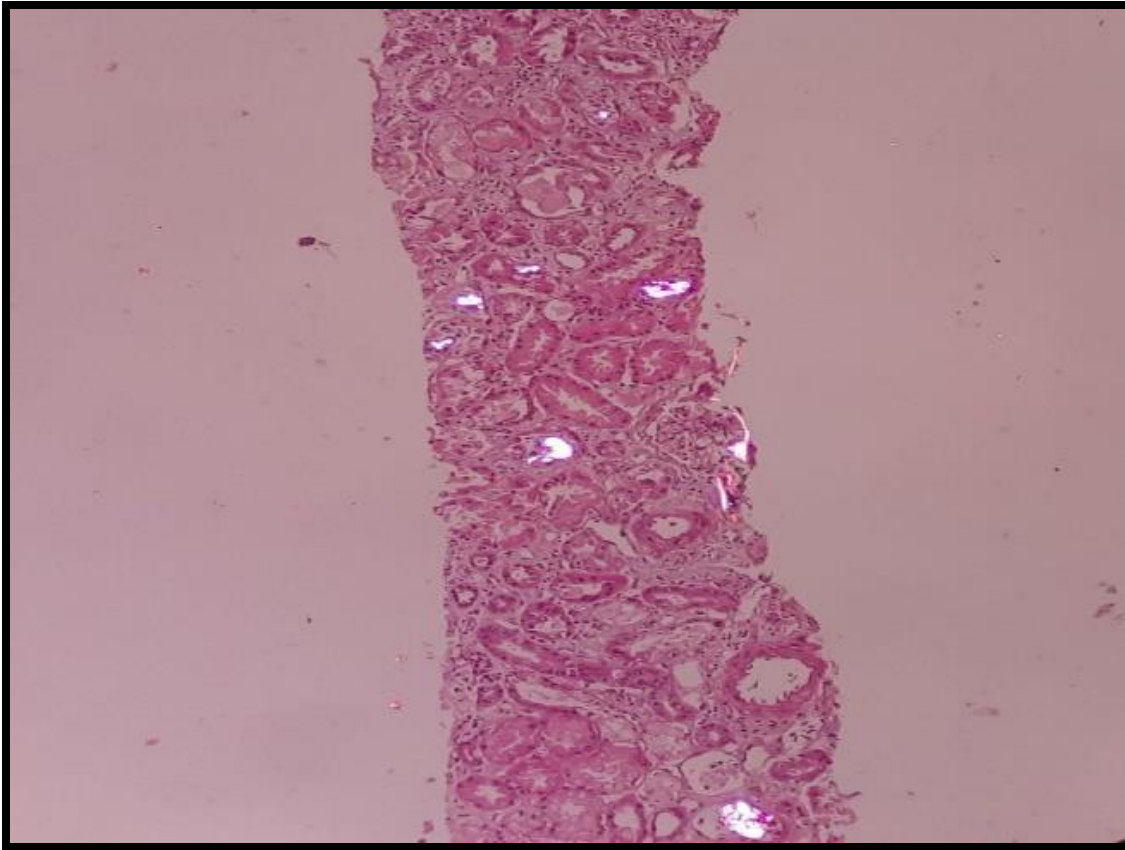


FIGURE - The crystals on polarization with the features of oxalate crystals

- He was hydrated adequately & started on calcium supplementation, counselled for low oxalate diet.
- He developed hepatic & skeletal metastasis of cancer .
- On Oncology consultation, Chemotherapy was deferred in view of explained poor response & AKI with dialysis dependency.
- oral intake was negligible.
- His renal function didn't improve & till date he is dialysis dependant.



## □ DISCUSSION

- Oxalate nephropathy secondary to post Roux en Y gastric bypass is a well known complication.
  
- It leads to nephrolithiasis, massive calcium crystals deposition in renal parenchyma, renal tubules & interstitium, leading to ATN, tubular atrophy & may lead to ESRD.

- Some of the case reports have documented recovery after reversing the Roux en Y bypass.
- But in most cases reversal surgery is not possible, in nonbariatric surgery, like in this case of Ca Stomach.

- So we need to have high index of suspicion for early diagnosis and management.
- In early detected cases, hydration, calcium supplementation, dietary modification, probiotic prescribing *Oxalobacter formigenes* may help to reverse the condition.
- But in most of cases, it is rare to treat & commonly leads to CKD & dialysis dependency

## □ REFERENCES

1. Yaghoubi F, Yarmohamadi M. Oxalate Nephropathy Causing Irreversible Renal Failure After Roux-en-Y Gastric Bypass Surgery, *Nephro-Urol Mon.* Online ahead of Print ; 11(1):e80757. [doi: 10.5812/numonthly.80757](https://doi.org/10.5812/numonthly.80757).
2. Nasr SH, D'Agati VD, Said SM, Stokes MB, Largoza MV, Radhakrishnan J, et al. Oxalate nephropathy complicating Roux-en-Y Gastric Bypass: An underrecognized cause of irreversible renal failure. *Clin J Am Soc Nephrol.* 2008;**3**(6):1676-83. doi: [10.2215/CJN.02940608](https://doi.org/10.2215/CJN.02940608). [PubMed: [18701613](https://pubmed.ncbi.nlm.nih.gov/18701613/)]. [PubMed Central: [PMC2572276](https://pubmed.ncbi.nlm.nih.gov/PMC2572276/)].

4. Nelson WK, Houghton SG, Milliner DS, Lieske JC, Sarr MG. Enteric hyperoxaluria, nephrolithiasis, and oxalate nephropathy: Potentially serious and unappreciated complications of Roux-en-Y gastric bypass. *Surg Obes Relat Dis*. 2005;**1**(5):481-5. doi: [10.1016/j.soard.2005.07.002](https://doi.org/10.1016/j.soard.2005.07.002). [PubMed: [16925274](https://pubmed.ncbi.nlm.nih.gov/16925274/)].

5. Agrawal V, Wilfong JB, Rich CE, Gibson P C. Reversal of gastric bypass resolves hyperoxaluria and improves oxalate nephropathy secondary to Roux-en-Y gastric bypass. *Case Rep Nephrol Dialysis*. 2016;**6**(3):114-9. doi: [10.1159/000449128](https://doi.org/10.1159/000449128).

6. Verdelho M, Mendes M, Ribeiro F. Oxalate nephropathy following Roux en Y gastric bypass surgery: Mini review. *Port J Nephrol Hypert.* 2016;**30**(3).

THANK YOU