

# It's Not Always Hepatorenal Syndrome

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## Introduction

- Bile cast nephropathy (BCN) or Cholemic Nephrosis (CN) is a form of acute renal dysfunction that happens in the background of liver dysfunction and hyperbilirubinemia
- We report an interesting case of BCN, in a patient who developed Acute Kidney Injury in the setting of hyperbilirubinemia due to Hepatitis A

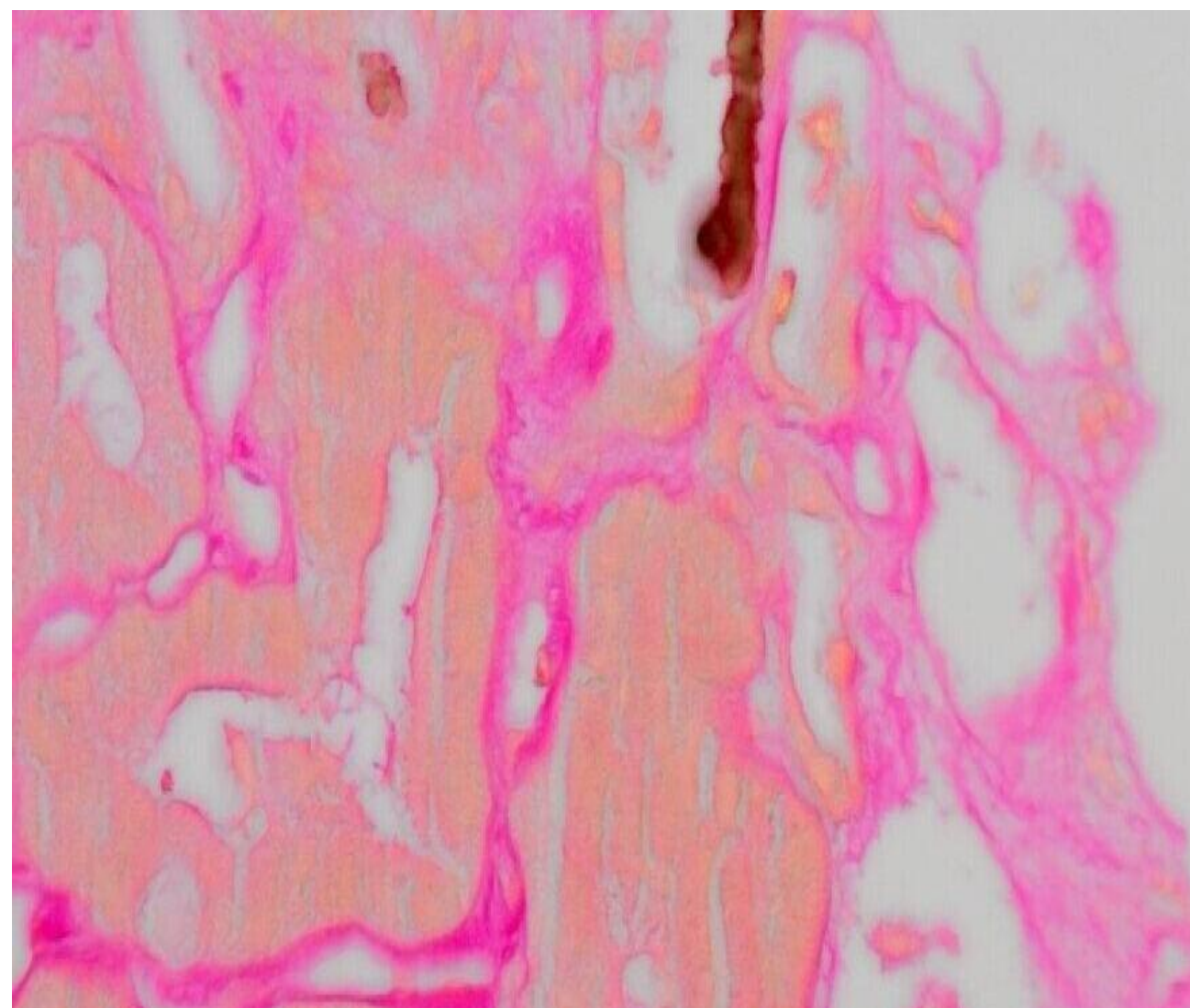
## Case Description

- A 58-year-old female presented with four days history of intractable nausea and vomiting and yellow discoloration of her skin and eye
- Past medical history included Diabetes Mellitus Type 2, Hypothyroidism, Hypertension and Hyperlipidemia
- Patient traveled to Arizona two months prior
- Physical Exam was significant for scleral icterus but otherwise completely unremarkable
- Blood work showed total bilirubin 7.9, direct bilirubin 6.1, ALT 4792, AST 5228, Alkaline Phosphatase 313, creatinine 2.8, BUN 32 and eGFR 19, INR 2.35, PTT 25.7. Elevated urobilinogen on UA.
- Imaging showed hepatic steatosis. Hepatitis-A IgM was positive.
- Empiric antibiotics and supportive therapy was initiated

• In the following days, total Bilirubin levels reached above

20, Creatine >8 and GFR <10

- Patient was initiated on hemodialysis with significant improvement in her symptoms. Renal biopsy showed pigmented casts, consistent with BCN or CN.
- On the day of discharge, AST levels were 63, ALT was 76, alkaline phosphatase was 189. Her total bilirubin was elevated at 20.5.
- Outpatient hemodialysis was arranged and patient was discharged home



## Conclusion

- Jaundice related nephropathy can lead to renal failure which is referred to as CN. Although the pathophysiology of CN is unclear, studies have shown tubular injury in mice from excretion of toxic bile acids in urine.
- Severe bilirubin elevations can cause acute renal injury, exacerbated by obstructive nephropathy secondary to bile cast formation
- A renal biopsy would be indicated in such patients to further evaluate the possibility of CN.
- Therapy involves reducing bilirubin levels, but patients commonly require hemodialysis
- By presenting this case, we encourage physicians to keep a broad differential in cases with hyperbilirubinemia and acute kidney injury

