

# Biliary Sump Syndrome causing Cholangitis from Displaced EUS-Choledochoduodenostomy Stent migration, salvaged with Cholangioscopy and Endoscopic therapy

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## Introduction

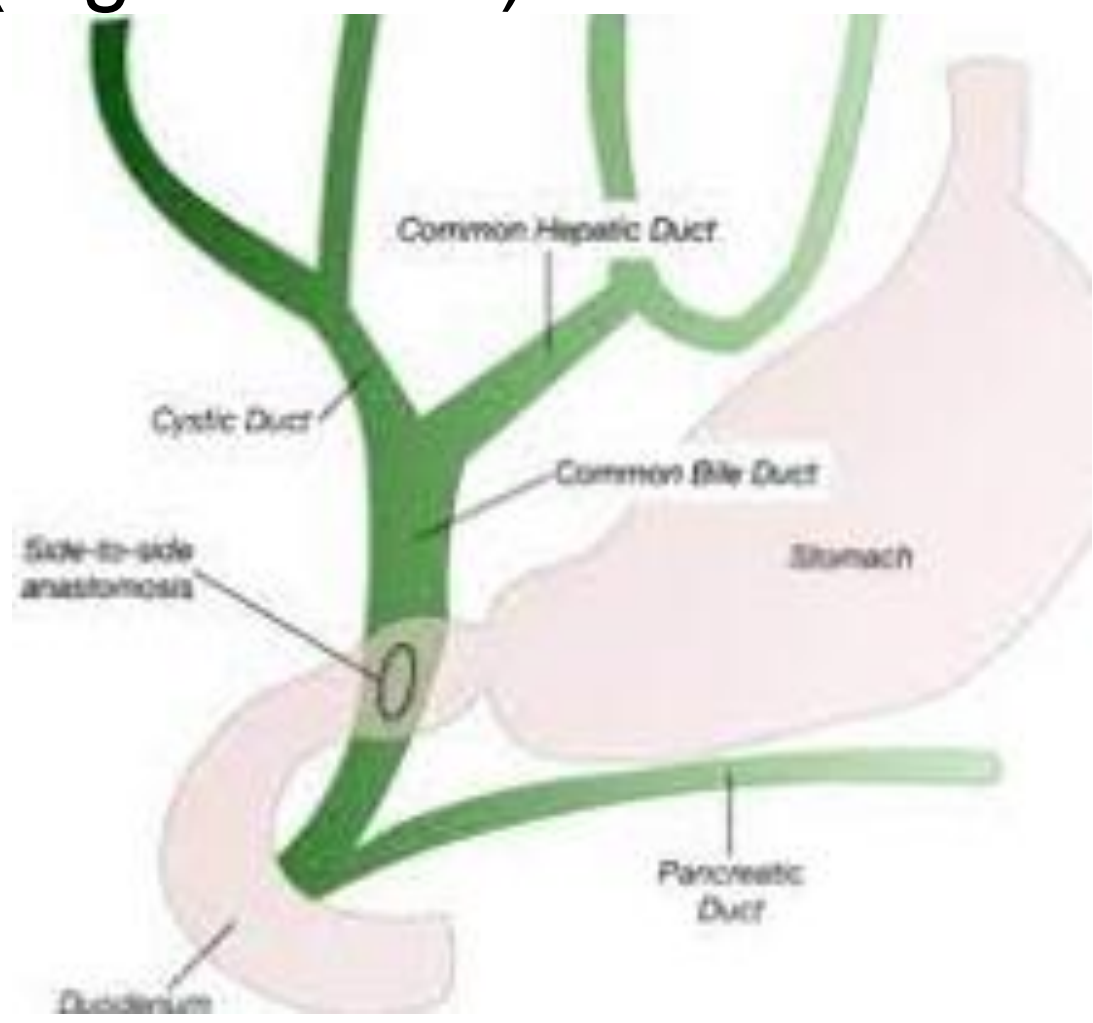
- EUS-guided choledochoduodenostomy (EUS-CDD) can relieve biliary obstruction when transpapillary biliary access fails (Fig 1).
- We describe a patient with EUS-CDD who developed a rare complication of CDD stent migration causing recurrent biliary obstruction and cholangitis, salvaged with endoscopic intervention with repeat stenting.

## Case Description

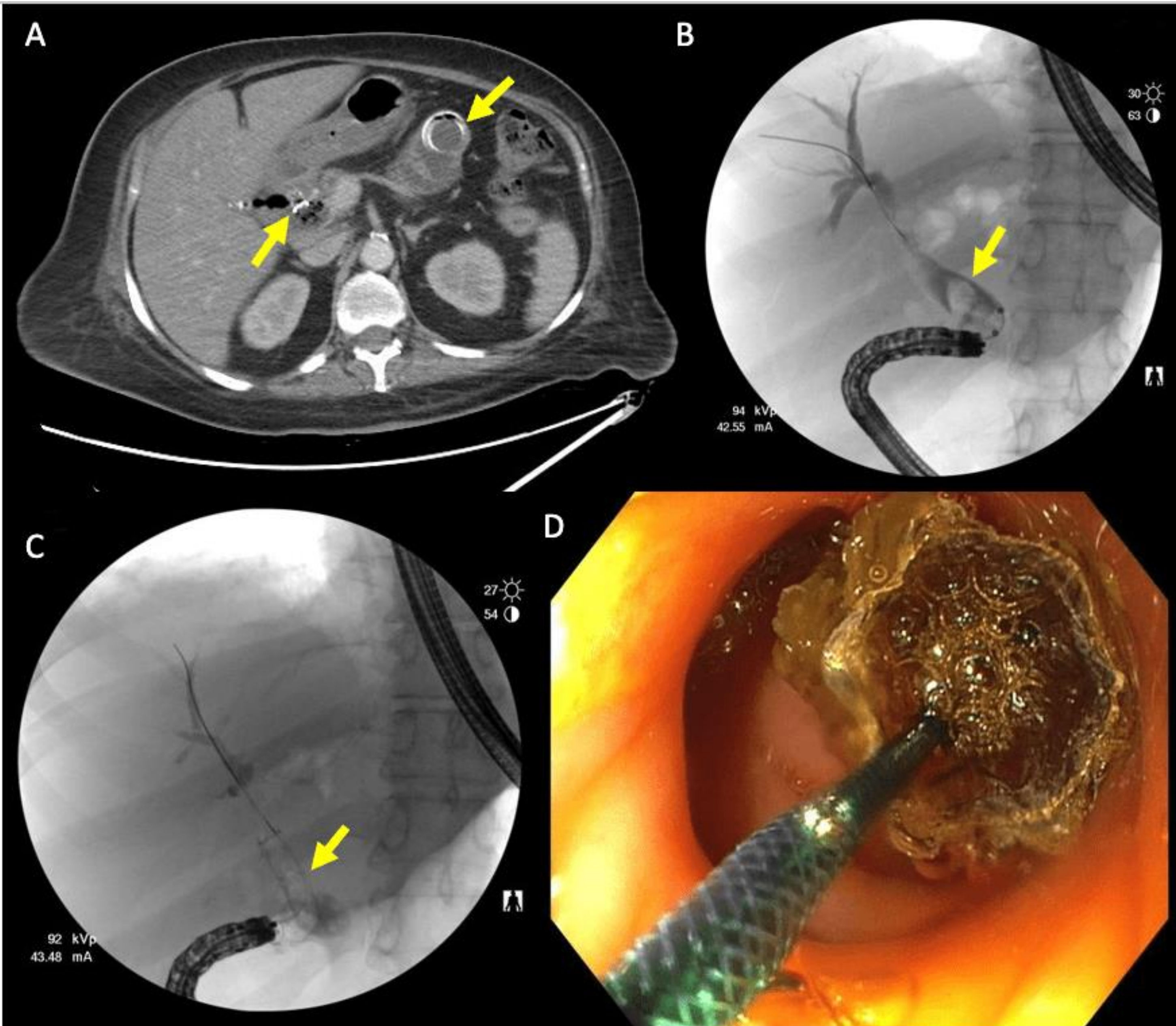
- 58-year-old female with pancreatic head adenocarcinoma presented initially with gastric outlet and biliary obstruction
- Same session EUS-CDD with a fully covered metal biliary stent, along with EUS-guided gastroenterostomy (EUS-GE) with 20 mm Axios stent.
- 5 months later, she presents with signs of recurrent biliary obstruction and cholangitis.
- Alkaline phosphatase 1986 U/L (normal 35-130)
- Total bilirubin 3.6 mg/dL (normal  $\leq 1.2$ ).

## Images

- CT showed patent EUS-GE Axios stent, but outward migration of the EUS-CDD stent (Fig 2A)
- This caused biliary obstruction from food debris impaction in the dependent bile duct reservoir (Fig 2B).
- EGD-CDD site was salvaged with cholangioscopy and food dis-impaction.
- Viabil fully covered metal biliary stent was placed with anti-migration flaps placement via the existing EUS-CDD site (Fig 2C & 2D).



**Figure 1.** CDD creates an anastomosis to allow free flow of bile from the CBD into the duodenum.



**Figure 2A.** Abdominal computed tomography with left arrow showing displaced CDD stent and right showing patent Axios EUS-GE stent.  
**2B.** Cholangiogram showing debris obstructing distal CBD causing reservoir “Sump Syndrome”  
**2C.** Cholangiogram with placement of Viabil stent with antimigration flaps for salvage of EUS-CDD.  
**2D.** Endoscopic image of Viabil stent with antimigration flaps.

## Discussion

- Biliary sump syndrome is a rare long-term complication previously seen in surgical CDD patients.
- Food impaction in the distal CBD from the new anastomosis acts as a “sump,”** a poorly drained reservoir, making this prone to accumulation of debris, increasing chances of complications.
- Complications include biliary obstruction,** abscesses, and cholangitis.
- Our case highlights the importance of this rare phenomenon in the era of therapeutic EUS procedures, noting that **sump syndrome can be successfully treated with repeat endoscopic therapy, avoiding the need for surgery or percutaneous intervention.**



## References

- 1.. Zeuge U, Fehr M, Meyenberger C, Sulz MC. Mind the sump! - diagnostic challenge of a rare complication of choledochoduodenostomy. Case Rep Gastroenterol. 2014 Nov 13;8(3):358-63. doi: 10.1159/000369298. PMID: 25520606; PMCID: PMC4264497.
2. Baker AR, Neoptolemos JP, Carr-Locke DL, Fossard DP. Sump syndrome following choledochoduodenostomy and its endoscopic treatment. Br J Surg. 1985;72:433–435.