

# External Tamponade of Pseudoaneurysm with Balloon Catheter

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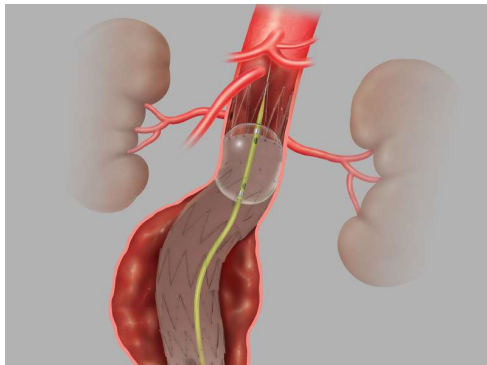
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When a patient develops postprocedural bleeding into the biliary tree there are a few ways in which this problem can be rectified. Typically, **interventional radiology can make use of a hepatic angiogram and embolization**, or the patient may have to go to surgery (1). Hepatic arterial injury incidence in relation to biliary catheterization are reported to be around 2% (2). It is imperative to utilize innovative ways to restore postprocedural complications, such as bleeding when conventional techniques are not adequate.

## Case Presentation

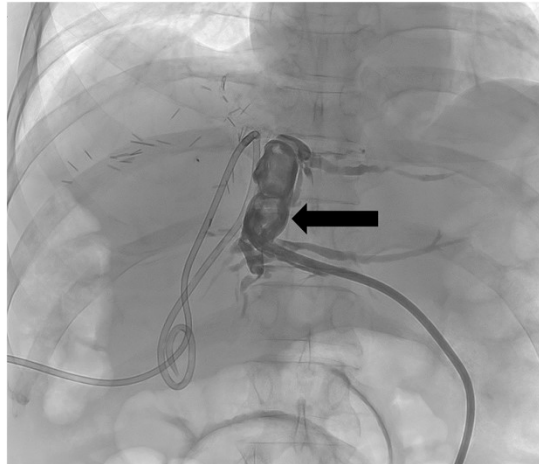
This case provides an example of a patient that developed hemobilia secondary to a pseudoaneurysm after placement of a percutaneous biliary catheter. Due to the patient's diminished liver reserve, the patient's surgeon specifically requested no regional embolization, and the decision was made **to externally tamponade the pseudoaneurysm with a 32mm/120cm CODA balloon** (Cook Incorporated, Bloomington, Indiana) placed into the left biliary tree through the catheter site. A completion angiogram showed no more extravasation with a pseudoaneurysm. The patient had no further bleeding events and underwent cholangioscopy assisted neoanastomosis creation connecting the left and right ducts two months later.

## CODA Balloon Catheter

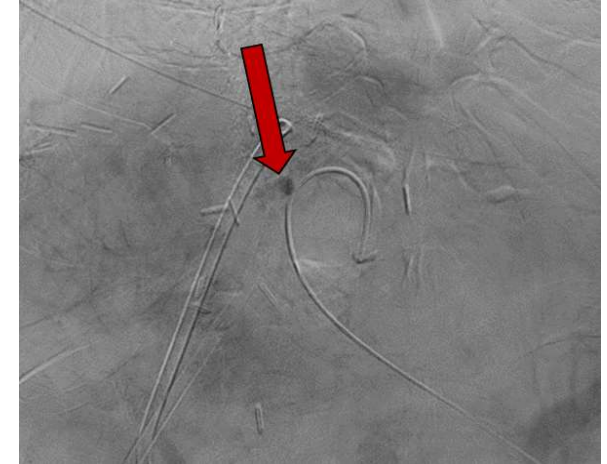


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## Clot and Pseudoaneurysm Radiograph

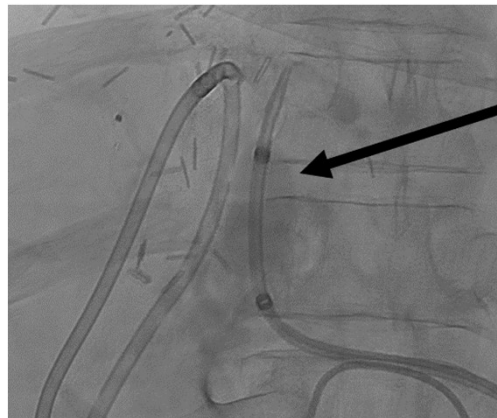


**Figure 1.** Frontal radiograph of drain injection performed through the left sided percutaneous biliary catheter demonstrating clot within the biliary system (black arrow).



**Figure 2.** Digital subtraction angiogram during portal venous phase demonstrating contrast pooling consistent with a pseudoaneurysm (red arrow).

## CODA Balloon Radiograph



**Figure 3.** Digital subtraction angiogram demonstrating inflated CODA balloon in the biliary duct (black arrow).

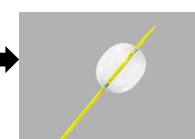
## Discussion

Typical ways in which to reduce hemobilia:

1. Endovascular embolization
2. Surgery

Can external tamponade be offered in cases such as this where embolization is not feasible?

Can balloon tamponade be considered a new technique to reduce hemobilia?



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How do postprocedural outcome compare to more conventional approaches?

What unique complications are associated with this technique?

## References

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2. L'Hermine C, Ernst O, Delemazure O, Sergeant G. Arterial complications of percutaneous transhepatic biliary drainage. Cardiovasc Intervent Radiol. 1996 Jun;19(3):160-4.

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