

# Cystic Artery Pseudoaneurysm: A Rare Complications of Subacute Cholecystitis

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## ABSTRACT

While there are less than 25 reported cases of cystic artery pseudoaneurysm, the majority of cases are caused by iatrogenic injury during cholecystectomy. Our research and examination of prior cases led us to find that the most common cause of injury are iatrogenic, and while no guidelines exists, treatment options include laparoscopic cholecystectomy and embolization of the cystic artery.

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## INTRODUCTION

We present a case of cystic artery pseudoaneurysm in a patient with subacute cholecystitis. Few cases have been reported in literature. We reviewed current literature, with attention to operative and non operative management.

## Case Report

A 51-year-old male with multiple medical comorbidities, recent cardiac arrest, C. difficile colitis, and ESRD on PD, who presented with hypotension and hypoglycemia found to have acute cholecystitis. Initially surgery was deemed prohibitive due to his medical history. Patient underwent percutaneous cholecystostomy tube placement. He tolerated the procedure well and his symptoms resolved, however he remained hospitalized for management of his medical comorbidities. Sixteen days later, he developed severe abdominal pain and his cholecystostomy tube began draining sanguineous fluid. CT angiogram depicted a cystic artery pseudoaneurysm and large distended gallbladder filled with fluid. The patient underwent IR embolization of the pseudoaneurysm and upsizing of his cholecystostomy drain to facilitate drainage of the hematoma. Embolization was completed without complications and patient's pain resolved after several days. Drain output was monitored, and sanguineous output ceased. The patient was discharged with plan for laparoscopic cholecystectomy in 4-6 weeks.

## Imaging

Once sanguineous fluid was noted from the cholecystostomy tube, CT scan was completed, which demonstrated the cystic artery pseudoaneurysm.

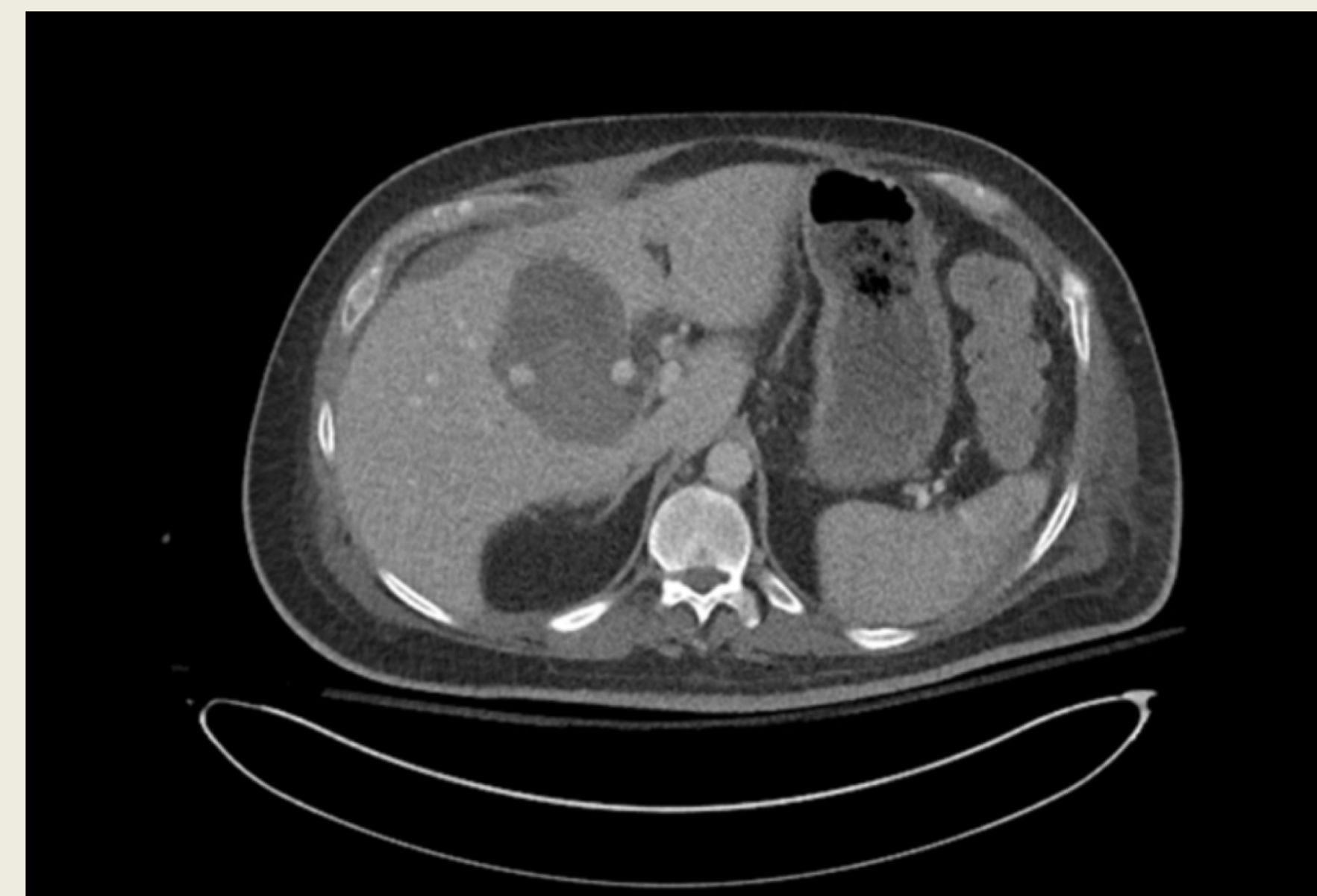


Image 1: CT demonstrating cystic artery pseudoaneurysm.

Due to patient's medical comorbidities, patient underwent IR angiogram with coil angioembolization of the cystic artery. Symptoms subsided following angioembolization.

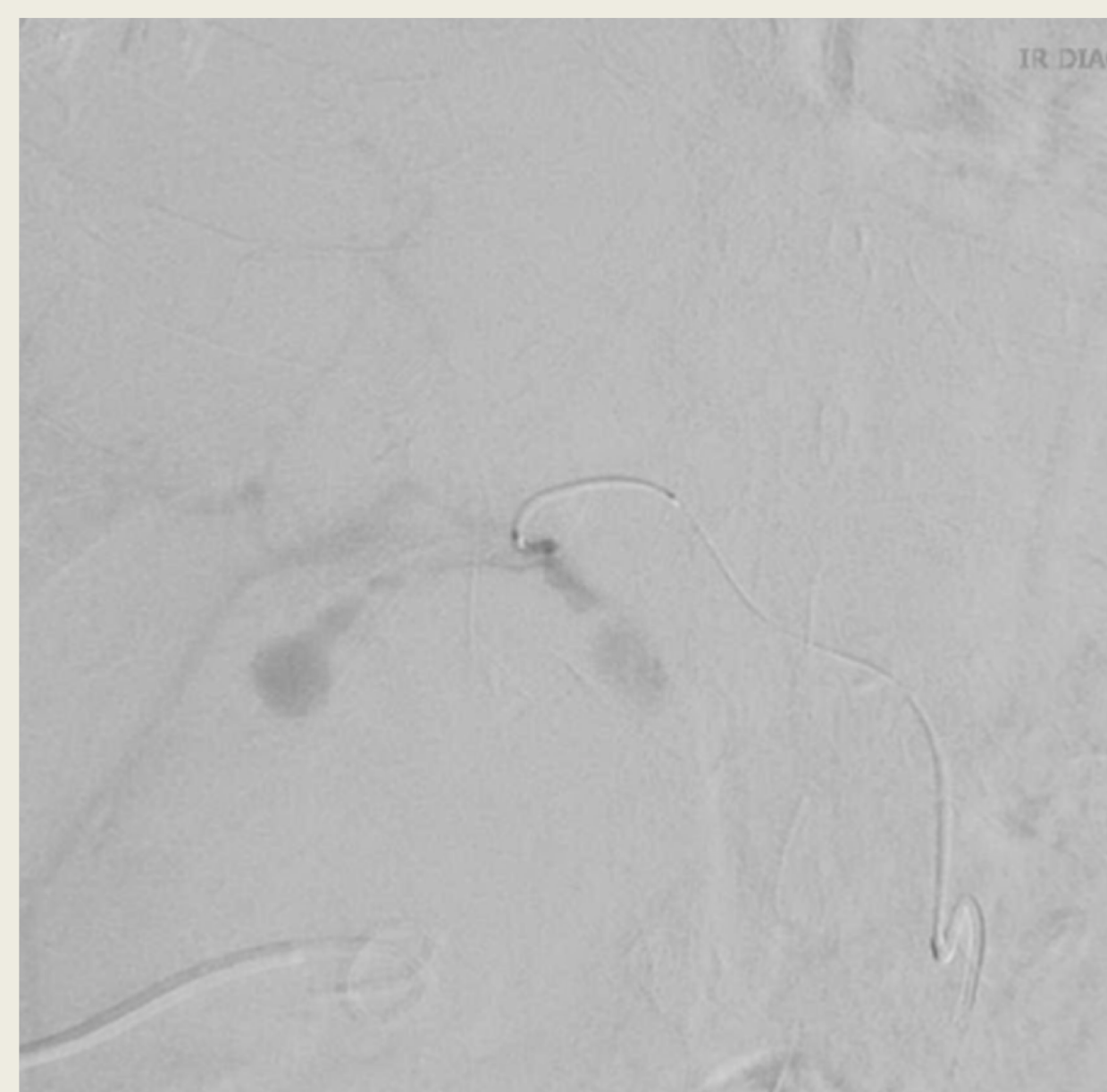


Image 2: IR angiogram

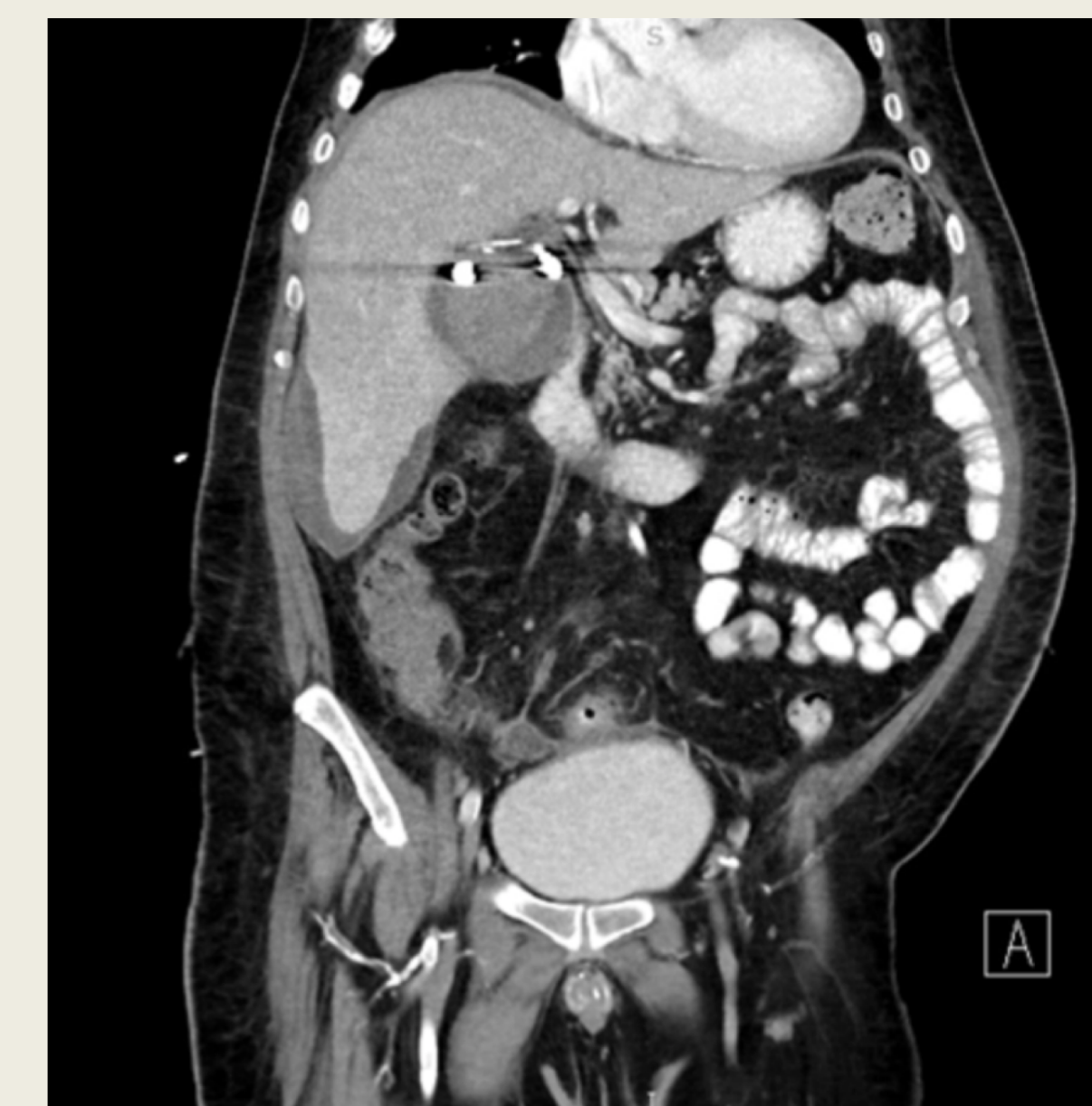


Image 3: CT scan demonstrating coil embolization

## DISCUSSION

There are less than 25 reported cases of cystic artery pseudoaneurysm. Patients normally present after injury during laparoscopic cholecystectomy. Secondary causes for pseudoaneurysms are inflammatory processes of the abdomen, such as cholecystitis, pancreatitis and liver injury.

## CONCLUSIONS

Pseudoaneurysm of the cystic artery is rare, with less than 25 reported cases in literature. Most of the cases involved prior laparoscopic cholecystectomy. While no guidelines currently exist to dictate management, our research demonstrated that laparoscopic cholecystectomy is a viable option. In the event that a patient is unable to undergo laparoscopic cholecystectomy, or has injury secondary due to this procedure, the recommendation remains for patient to undergo angioembolization of cystic artery. Given his prohibitive medical comorbidities, the patient underwent temporizing measures without complications. We conclude that embolization and interval cholecystectomy is a viable and safe option for patients presenting with subacute cholecystitis cystic artery pseudoaneurysm.

## REFERENCES

1. Kuzman MS, Adiamah A, Higashi Y, Gomez D. Rare case of cystic artery pseudoaneurysm. *BMJ Case Reports*. March 2018:bcr-2017-223789. doi:10.1136/bcr-2017-223789
2. Loizides S, Ali A, Newton R, Singh KK. Laparoscopic management of a cystic artery pseudoaneurysm in a patient with calculus cholecystitis. *Int J Surg Case Rep*. 2015;14:182-185. doi:10.1016/j.ijscr.2015.08.007
3. Pamela Youde Nethersole Eastern Hospital, Chai Wan, Hong Kong, To K, Lai EC, Chung DT, Chan OC, Tang C. Cystic artery pseudoaneurysm with haemobilia after laparoscopic cholecystectomy. *Hong Kong Med J*. April 2018:203-205. doi:10.12809/hkmj176236
4. Zucker B, Walsh U, Nott D. Laparoscopic treatment of cystic artery pseudoaneurysm in the presence of calculous cholecystitis. *Ann R Coll Surg Engl*. 2017;99(6):e183-e184. doi:10.1308/rcsann.2017.0101