Sump syndrome: Endoscopic management of biliary stent induced choledochoduodenal fistula

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ABSTRACT

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CASE REPORT

A 43-year-old female presented with severe right upper quadrant abdominal pain, nausea, vomiting and diarrhea for four days. Three years ago, she was admitted for cholecystitis, cholelithiasis and cholangitis requiring an endoscopic retrograde cholangiopancreatography (ERCP) with plastic stent placement for drainage. Unfortunately, the patient was lost to follow-up after initial plastic stent placement. On admission, she was afebrile and her liver function tests were normal. The ERCP was performed which revealed the distal end of the biliary stent, perforating proximal to the periampullary area causing a large choledochoduodenal fistula (Figure 1). The guidewire was successfully negotiated through the native papilla as well as the fistulous tract. No obstruction, mass or stone was noted. A sphincterotomy was done through the fistula (Figure 2) and through the actual sphincter at the ampulla (Figure 3). The sump was opened, swept clean with removal of abundant debris. Her abdominal pain completely resolved and patient clinically improved within 24 hours after the procedure.

DISCUSSION

As long as the sphincter of Oddi functions normally, bile and enteric contents will not accumulate in the

distal common bile duct (CBD). Biliary sump syndrome occurs when accumulation of debris, stones and static bile acts as a nidus for bacterial proliferation, predisposing the patient to cholangitis. Biliary sump syndrome is a rare complication of biliary enteric anastomosis after cholecystectomy [1]. After side to side choledochoduodenostomy, the CBD between the anastomosis and the ampulla of Vater becomes a potential sump (a recess or reservoir serving a drain for liquids) (Figure 4). In this patient, a choledochoduodenal fistula formed due to the biliary stent migrating to the CBD, perforating proximal to the ampulla. The CBD segment between the fistula and ampulla became a sump. There have been cases reported of spontaneous choledochoduodenal fistulas occurring after biliary metallic stent placement [2]. In those cases the cause

Figure 1: Endoscopy picture revealing distal end of the biliary stent, perforating proximal to the periampullary area causing a large choledochoduodenal fistula.

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Figure 2: Passage of guidewire through the native papilla as well as the fistulous tract.

Figure 3: Sphincterotomy through the fistula and through the actual sphincter at the ampulla.

may have been inflammation caused by impacted calculi and food material. In this case, there is no stone or masse noted.

Figure 4: Diagrammatic explanation of SUMP syndrome.

CONCLUSION

The formation of a choledochoduodenal fistula resulting from plastic biliary stent induced perforation is rare. Several cases of biliary stent related perforations secondary to metallic stents have been reported. We report a case in which a spontaneous choledochoduodenal fistula occurred after plastic biliary stent placement, leading to sump syndrome that was treated successfully by sphincterotomy.

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Author Contributions

Anju Malieckal – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Kinesh Changela – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Zeyar Myint – Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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