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Gut And Liver, 9(2): 251-252

2015-03

http://hdl.handle.net/2115/58544

type: article

http://gutnliver.org

ekjg009-02-22.pdf

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A Unique Use of a Double-Pigtail Plastic Stent: Correction of Kinking of the Common Bile Duct Due to a Metal Stent

Masaki Kuwatani, Hiroshi Kawakami, Yoko Abe, Shuhei Kawahata, Kazumichi Kawakubo, Kimitoshi Kubo, and Naoya Sakamoto

Department of Gastroenterology and Hepatology, Hokkaido University Graduate School of Medicine, Sapporo, Japan

A 72-year-old man with jaundice was referred to our hospital. A contrast-enhanced computed tomography (CT) scan showed a 15-mm, weakly enhancing mass at the ampulla of Vater (Fig. 1) and dilatation of the bile duct. Endoscopic carbon dioxide cholangiography revealed kinking of the common bile duct (CBD) above the proximal end of the FCSEMS. A 7-F double-pigtail plastic stent was therefore placed through the FCSEMS to correct the kink, straightening the common bile duct (CBD) and improving cholangitis. This is the first report of a unique use of a double-pigtail plastic stent to correct CBD kinking. The placement of a double-pigtail plastic stent can correct CBD kinking, without requiring replacement or addition of a FCSEMS, and can lead to cost savings. (Gut Liver, 2015;9:251-252)

Key Words: Common bile duct neoplasms; Cholangiopancreatography, endoscopic retrograde; Stents; Adverse effects; Cholangitis

INTRODUCTION

A self-expandable metal stent (SEMS) is an efficient and established tool for solution of biliary obstruction due to both benign and malignant diseases. Meanwhile, there have been some reports regarding adverse events by a SEMS: migration, dislocation, ulceration, perforation of the bowel and so on. We sometimes encounter the case with kinking of the common bile duct (CBD) by a SEMS which is caused by inappropriate length or strong axial force of a SEMS and necessary for appropriate coping, for example, exchange of a SEMS or addition of another SEMS.

A double-pigtail plastic stent is less costly than a SEMS and can lead to cost savings. This is mainly caused by food impaction in a stent or reflux of duodenal contents to the bile duct. In this case, however, acute cholangitis was cured after the correction of CBD kinking, which indicates that cholangitis was caused by CBD kinking, not by placing a stent across the ampulla of Vater. CBD kinking can occur by inappropriate placement of a SEMS or a large-bore diameter plastic stent with strong axial force. Nakai et al. recommends a new method of SEMS stenting to reduce early stent-related complications including kinking of the bile duct by longer stent placement with the center of the stent located in the center of the biliary stricture. However, the SEMS stent was therefore replaced through the FCSEMS to correct the kink, straightening the CBD (Fig. 4) and improving cholangitis.

DISCUSSION

This is the first report of a unique use of a double-pigtail plastic stent to correct CBD kinking. It is reported that placement of a metal stent across the main duodenal papilla can predispose to cholangitis which is mainly caused by food impaction in a stent or reflux of duodenal contents to the bile duct. In this case, however, acute cholangitis was cured after the correction of CBD kinking, which indicates that cholangitis was caused by CBD kinking, not by placing a stent across the ampulla of Vater. CBD kinking can occur by inappropriate placement of a SEMS or a large-bore diameter plastic stent with strong axial force. Nakai et al. recommends a new method of SEMS stenting to reduce early stent-related complications including kinking of the bile duct by longer stent placement with the center of the stent located in the center of the biliary stricture. However, the SEMS stent was therefore replaced through the FCSEMS to correct the kink, straightening the CBD (Fig. 4) and improving cholangitis.
new method was impossible in this case, because the site of the biliary stricture was located at the ampulla.

There has been one report by Park et al.\(^7\) in which a double-pigtail plastic stent with a FCSEMS was used for anchoring. They focused on the pigtail shape and revealed that it could help to prevent FCSEMS migration. Meanwhile, we expected the correction of CBD kinking from the stent shaft in addition to anchoring. A use of a double-pigtail plastic stent can correct CBD kinking without exchange or addition of another SEMS and can save cost.

**CONFLICTS OF INTEREST**

No potential conflict of interest relevant to this article was reported.

**REFERENCES**


