Preoperative Drainage for Malignant Biliary Strictures: Is It Time for Self-Expanding Metallic Stents?

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Palliation of jaundice improves the general health of the patient and, therefore, surgical outcomes. Because of the complexity and location of strictures, especially proximally, drainage has been accompanied by increased morbidity due to sepsis. Another concern is the provocation of an inflammatory and fibrotic reaction around the area of stent placement. Preoperative biliary drainage with self-expanding metallic stent (SEMS) insertion can be achieved via a percutaneous method or through endoscopic retrograde cholangiopancreatography. A recently published multicenter randomized Dutch study has shown increased morbidity with preoperative biliary drainage. A Cochrane meta-analysis has also shown a significantly increased complication rate with preoperative drainage. However, few of these studies have used a SEMS, which allows better biliary drainage. No randomized controlled trials have compared preoperative deployment of SEMS versus conventional plastic stents. The outcomes of biliary drainage also depend on the location of the obstruction, namely the difficulty with proximal compared to distal strictures. Pathophysiologically, palliation of jaundice will benefit all patients awaiting surgery. However, preoperative drainage often results in increased morbidity because of procedure-related sepsis. The use of SEMS may change the outcome of preoperative biliary drainage dramatically.

Key Words: Malignant biliary stricture; Preoperative biliary drainage; Percutaneous transhepatic biliary drainage; Self-expanding metallic stents; Surgical bypass

INTRODUCTION

Bile duct stricture is a challenging clinical condition that requires a coordinated multidisciplinary approach involving gastroenterologists, radiologists, and surgical specialists. These biliary strictures can be categorized according to the nature of their etiology, which can be benign or malignant. Malignant strictures are usually the result of either a primary bile duct cancer, such as a cholangiocarcinoma (CCA) causing bile duct lumen narrowing and obstructing bile flow, or extrinsic compression of bile ducts by the surrounding lymph nodes or neoplasms of adjacent organs, namely the gallbladder, pancreas, or liver. Painless obstructive jaundice is a usual manifestation of malignant biliary strictures. The most common cause of malignant distal biliary obstruction is pancreatic cancer, and 70% to 90% of these patients develop jaundice during the course of their disease.1 Because of bile flow obstruction, the presence of toxic substances can result in multiple physiological disturbances. These distorted physiologic mechanisms can result in kidney failure, cardiac dysfunction, liver injury, hemostatic abnormalities, and altered body immunity.2 Hence, palliation of jaundice improves the general health of the patient and surgical outcomes and has made this therapeutic aspect promising. We review the therapeutic options for malignant biliary obstruction and discuss the role of self-expanding metallic stents (SEMS) for preoperative biliary drainage (PBD).

ROLE OF PREOPERATIVE BILIARY DRAINAGE

Operative removal of cancers causing malignant biliary strictures is currently the curative treatment of choice. However, these treatments are typically major operations associated