The therapeutic value of Double-balloon Enteroscopy (DBE): Prevention of surgical intervention in small bowel or biliary diseases

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Introduction
Traditionally, surgical intervention is required in the following conditions:  1. active small bowel bleeding which cannot be controlled by radiological method,  2. small bowel tumour, and  3. biliary disorder failed therapeutic ERCP due to surgically altered anatomy.  There has been revolutionary change in management of these diseases from surgery to endoscopic treatment after the invention of DBE by Yamamoto in 2001.

Objectives
To illustrate therapeutic use of DBE to replace surgical intervention.

Methodology
The demographic data, endoscopic data and outcome of patients receiving DBE in TMH for the above indications would be analyzed.

Result
Thirty-three patients had received DBE in TMH since 2013. Seven of them had one of the above indications, including two males and five females, age ranged from 64 to 84 years old. They were divided into three groups for separate analysis.

1. Active small bowel bleeding  Three ladies (66, 66 and 69 years old) suffered from active small bowel bleeding which cannot be controlled even after mesenteric angiogram. DBE were then performed and identified bleeding vascular lesions in jejunum/ ileum (angiodysplasia in two cases and Dieulafoy's lesion in one case), which were controlled successfully by adrenaline injection, argon plasma coagulation and clipping. Laparotomy and intra-operative enteroscopy was avoided.

2. Small bowel tumour  Two ladies (64 and 84 years old) with unexplained iron deficiency anemia were found to have small bowel tumour by capsule endoscopy. One of them had multiple hamartomatous polyps in jejunum (largest one ~3.5cm) due to Peutz-Jeghers syndrome and the other one had a 4cm jejunal lipoma. These polyps were all successfully removed by snare polypectomy without complication. Laparotomy with small bowel resection was avoided.

3. Biliary disorder failed therapeutic ERCP
due to surgically altered anatomy We failed to perform conventional ERCP for acute cholangitis in two gentlemen (76 and 80 years old) with long afferent loop due to previous Billroth II gastrectomy. We then performed DBE-assisted ERCP with balloon sphincteroplasty and all CBD stones were removed. Laparotomy with exploration of CBD was avoided. Conclusion: Deep small bowel lesions can be managed by endoscopic interventions through DBE, thereby avoiding surgical intervention. This procedure has become the standard of care in management of certain small bowel diseases.