



Free Jejunal Intrathoracic Graft After Esophageal Replacement Failure

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We present the case of a 24 year old man who suffered from severe chronic esophagitis and an esophageal stricture. He was managed by gastric pull-up but complicated by leakage of the anastomosis. Subsequent surgical treatment with free jejunal graft was

performed and the rationale for the technique selected is discussed.

Key words: Esophageal Replacement, Bypass, Free Jejunal Graft, Transposition

Esophageal replacement is indicated when the native esophagus fails to serve as the conduit between the pharynx and the stomach and this should be performed anticipating a full lifetime satisfactory function. Procedures utilized in esophageal reconstruction include gastric transposition, free jejunal graft, gastric transposition combined with free jejunal graft, pedicle jejunal interposition, and colon interposition, among others. Although colon interposition has gained the most popularity, the choice of conduit depends on patient factors and the surgeon's experience. Recently, free jejunal graft with microvascular anastomosis have been popularized by reconstructive head and neck surgeons. Regardless of the procedure, complications are frequent and include anastomotic leaks, fistulas, and strictures some which will lead to reoperation. A more serious complication is the loss of the replacement graft requiring another esophageal replacement.

We present a 24 year old man with history of severe chronic esophagitis and stricture who required an esophageal replacement and was initially managed with a gastric pull-up (intrathoracic gastric transposition) but

complicated by leakage of the anastomosis. Subsequent surgical management with free jejunal graft was performed and the rationale for the technique selected is discussed.

Case Report

A 24 year old man suffered disruption of the anastomosis of an intrathoracic gastric transposition, after total esophagectomy for benign esophageal stricture. This resulted in mediastinitis, bilateral empyema and peritonitis. He recovered from the infectious processes but upon referral to our hospital he presented a gap of nine centimeters between a spontaneously closed upper esophagus and the intrathoracic stomach.

Celiotomy findings showed very dense upper abdominal adhesions with the duodenum exiting through the hiatus. Attempt at colon interposition was abandoned, due to absence of stomach within the abdominal cavity and the high probability of technical difficulties in carrying the colon through the chest.

Through a right thoracotomy and right neck dissection, both ends of the failed gastric transposition were identified, and 30 centimeters of jejunum with its vascular arcade were removed from the abdomen and the artery flushed with heparin. The pericardium was opened and the jejunal artery was anastomosed to the ascending aorta and the vein to the superior vena cava.

Gastrograffin esophagogram showed patency without leak, five days after the procedure (Figure 1). The patient

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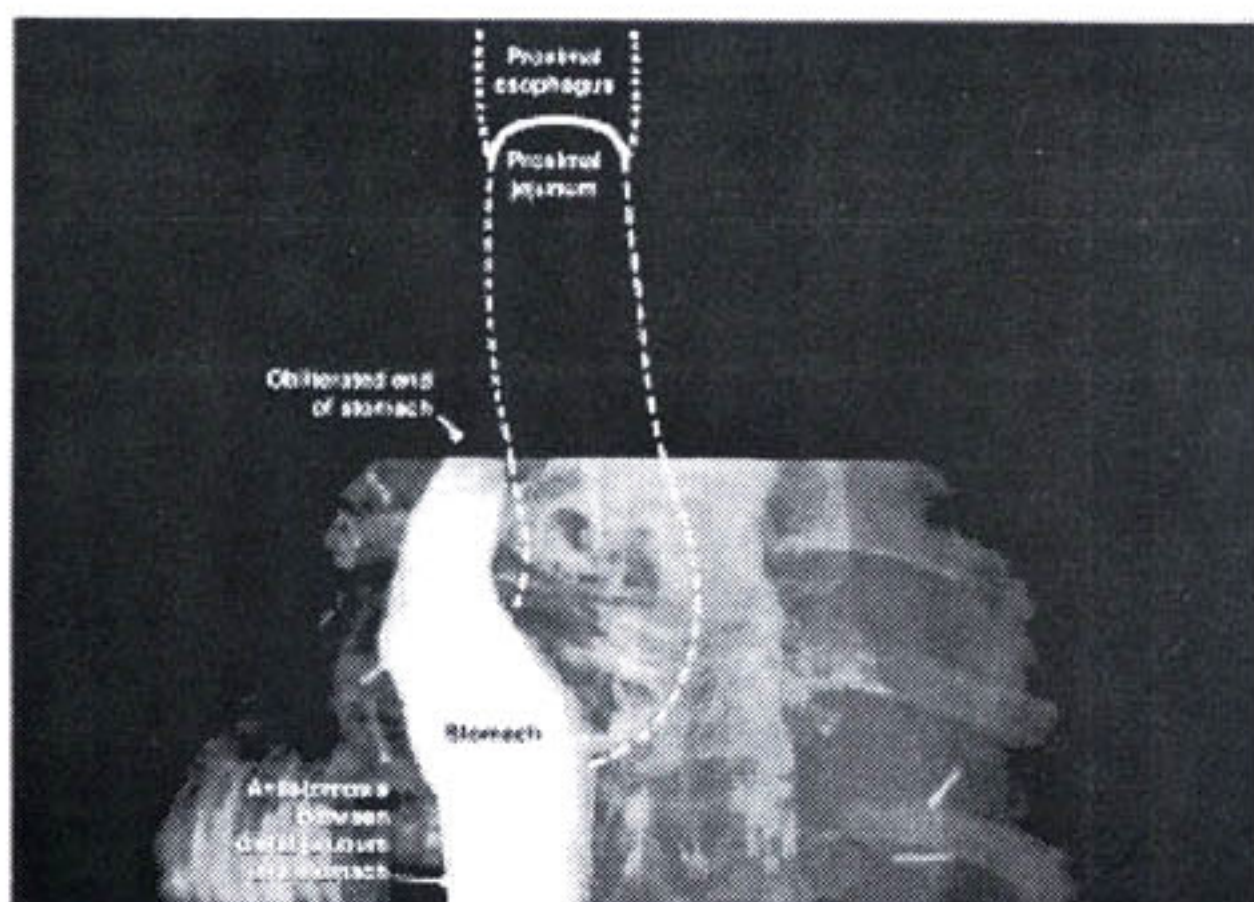


Figure 1. Composite of Free Jejunal Limb Anastomosis Between Esophagus and Stomach.

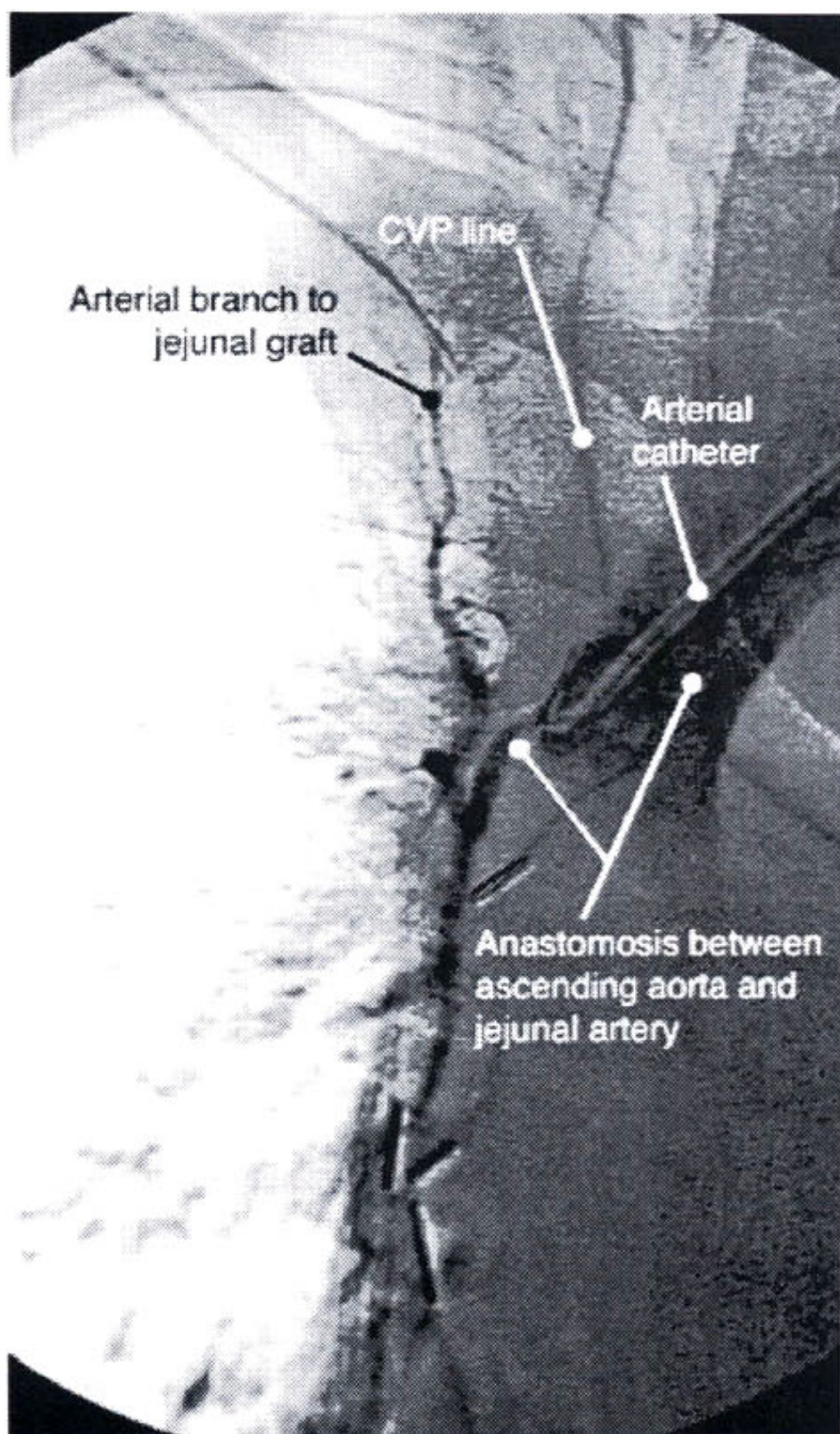


Figure 2. Arteriogram Demonstrating the Arterial Branches Supplying the Jejunal Graft. The Main Artery Branches from the Ascending Aorta.

was discharged on the eight postoperative day and a selective arteriogram was done one month after the procedure showing excellent perfusion of the jejunal graft (Figure 2).

Four years later, the patient have been asymptomatic on a regular diet.

Discussion

Esophageal replacement continues to be a challenging operation with significant morbidity. Most complications are anastomotic leaks and strictures, the etiology most likely the result of inadequate blood supply. Although various alternatives for replacement have been utilized, the method for esophageal replacement depends on patient factors and the surgeon's experience. In recent years, the jejunum has been transplanted using microvascular anastomosis, but death owing to total necrosis of the graft remains high (1). In our patient, we performed a successful intrathoracic free jejunal graft with blood supply and drainage from the ascending aorta and superior vena cava respectively, making this case a unique one. We were unable to find a similar case with this management reported in the medical literature, although we are aware that this maneuver has been used extensively in the neck (2,3).

We are also aware of the seriousness of a graft failure in such a position, intrathoracic (1, 4, 5). This is why this procedure should be attempted only by surgeons experienced in microvascular techniques. This procedure produced the least functional disruption of the gastrointestinal function and in experienced hands may be used to cope with certain esophageal replacement failures.

Resumen

Se presenta el caso de un paciente masculino de 24 años, quien padeciera de esofagitis severa crónica con estrechez. Este fue tratado con transposición del estómago luego de resección del esófago. El paciente tuvo fuga anastomótica, cuyo eventual manejo requirió reemplazo con segmento libre de yeyuno. Se discuten las razones para el uso de la técnica quirúrgica utilizada.

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