Palliative Esophageal Intubation for Carcinoma*

A Combined Push-Pull Method

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The use of prosthetic tubes for palliation of esophageal carcinoma can be carried out with safety using a combined push-pull method. The advantages of simultaneous endoscopy and laparotomy are illustrated in two cases. For safe durable palliation, emphasis must be placed upon seating the tube under direct vision as well as upon the firm fixation of the tube to the abdominal wall to prevent its subsequent migration.

Prosthetic intubation relieves the most disabling symptom of nonresectable esophageal carcinoma—severe dysphagia. Of the available prostheses, the Soultar tube can be introduced at esophagoscopy and "pushed" through the obstructing tumor. This technique avoids laparotomy, but has the risks of esophageal perforation and of inadequate fixation and subsequent migration of

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DISCUSSION

Various names, such as paraganglioma and chemodec-
toma, are used to describe tumors of the carotid body
and related structures. The latter term was coined by
Lattes and Waltner1 to designate tumors arising from
paraganglion cells constituting the chemoreceptors.
Chemodectomas usually arise from the carotid bodies2
but have also been reported in the glomus jugulare,
vagus nerve, ganglion nodosum, mediastinum, lungs,
abdomen, ciliary body, femoral canal, mandible, retro-
peritoneal region, and extremities.3

Intrathoracic chemodectomas are usually subpleural
and intrapulmonary.1-3 Pulmonary thromboemboli
have been incriminated in their pathogenesis.4 They may also
arise from chemoreceptor tissue in relation to the
thoracic aorta. Mediastinal chemodectomas are exceed-
ingly rare.5-7 Tama et al8 have reported 13 cases of
mediastinal chemodectoma of which six occurred in
males and seven in females. In three of the cases, there
was a cervical mass extending into the mediastinum.
Chemodectomas are usually benign but locally invasive.9
Metastatic lesions are exceedingly rare. The most
common site of visceral metastasis seems to be the lungs.
Among 179 cases of carotid body tumors, Fanning et al9
found 25 cases of chemodectoma with metastasis. These
tumors are capable of secreting catecholamines.8
Chemodectomas are radioresistant, and none is known
to have undergone spontaneous regression. Surgical exic-
sion remains the treatment of choice.9

The rare location of the tumor and the exceedingly

rare fatal malignant course are of interest in the present
case.

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the tube. More recently a prosthesis has been favored which can be "pulled" into position from a gastrotomy. A leader is passed via the mouth and threaded through the growth. Downward traction through a gastrotomy on this leader "pulls" the attached tube blindly into the esophagus until the funnel-shaped flange of the tube is impacted by "feel" on the intralu.menal shelf of the tumor. The Mousseau-Barbin tube and the later modification of Celestin have been the most successful tubes of this type.2 Secure positioning of the tube to prevent subsequent migration is an important technical point with all intubation methods.

The technique we have adopted for insertion of a Celestin tube emphasizes two features to obtain secure fixation. The basic "pull" technique of Celestin is combined with the "push" technique of Soutrar. Simultaneous esophagoscopy with laparotomy is used to assist passage of the tube and to confirm adequate impaction by direct vision. Following impaction, the distal tube is anchored to the stomach and abdominal wall by a heavy silk suture.

TECHNIQUE

Under general anesthesia, the upper abdomen is entered through a modest incision, and a short vertical gastrotomy is made high in the midanterior surface of the stomach. A rigid esophagoscope is passed from above, and the distance to the proximal level of the tumor is precisely measured. When necessary, preliminary dilatation may be accomplished either with the esophagoscope or retrogradely through the gastrotomy. The pilot leader is passed through the esophagoscope and with gentle firmness threaded through the proximal end of the leader attached to the Celestin tube. The abdominal surgeon then pulls the Celestin tube through the cricopharyngeal muscle into the esophagus, while the endoscopist reinserts the esophagoscope and pushes with gentle pressure on the proximal flange. The abdominal surgeon "feels" the impaction of the flange in the tumor shelf, while the endoscopist confirms its position by both direct visualization and measurement. The endoscopist is able to assure that there is no buckling of the flange which may lead to later obstruction.3 The distal tube is cut on a generous bias, leaving several centimeters within the stomach. To anchor the tube, a heavy silk mattress suture is taken through the end of this tube, the stomach wall, and the abdominal fascia, but not including the skin. This last step, originally described by Fell et al.,3 is particularly helpful for growths of the esophagogastric junction. Elevation of the patient's head and torso following operation prevents reflux.

CASE REPORTS

CASE 1

A 42-year-old man was admitted with a 9.07-kg (20-lb) weight loss, epigastric pain, and dysphagia limiting oral intake to fluids. An upper gastrointestinal series showed a partially obstructing lesion of the esophagus that proved on biopsy to be squamous carcinoma. Bronchoscopy revealed growth of the tumor into the posterior wall of the left mainstem bronchus.

At the time of laparotomy, the Celestin tube was passed by pulling on the leader through the gastrotomy until firm resistance was met. Esophagoscopy at this time revealed the proximal end of the Celestin tube wedged within the cricopharyngeal sphincter, a very dangerous and ineffective position. Simultaneous pushing with the esophagoscope and pulling on the leader through the gastrotomy passed the Celestin tube through the cricopharyngeal muscle until it became truly impacted in the tumor and its position at the level of the tumor was confirmed by direct measurement. The patient lived two months following intubation, maintained satisfactory oral intake, and died of his extensive metastasis.

CASE 2

A 62-year-old man with an 11.34-kg (25-lb) weight loss and dysphagia to all but liquids was found on an upper gastrointestinal series to have carcinoma of the distal third of the esophagus. At esophagoscopy a small dilator was passed through the tumor. Following this, the Celestin tube was
passed using the combined technique described above. The postoperative course was uncomplicated, and the patient was adequately palliated, taking all of his nourishment by mouth.

**DISCUSSION**

These cases are indicative of the short time left to patients with this disease, once it is discovered. Palliation is justified only if it is immediate and uncomplicated. The advantages of simultaneous endoscopy and laparotomy are illustrated in these patients. In the first case, passage of the tube into proper position, impacted in the tumor, and its secure placement were facilitated by direct visualization, pushing from above. In a second case, endoscopic dilatation made it possible to pass the tube safely. In both cases a secure position was maintained by fixation of the tube to the abdominal wall. In the authors’ opinion, it is not wise to make a rigid distinction between intubation techniques, i.e., push vs pull. Emphasis should be placed upon the combined technique of endoscopy with laparotomy which adds to the safety of the procedure and reduces the likelihood of complications from improper placement or tube migration.

**REFERENCES**


**Spontaneous Graft Closure in Anomalous Origin of the Left Coronary Artery**

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Several reports of successful correction of anomalous origin of the left coronary artery from the pulmonary artery utilizing a graft to the ascending aorta have demonstrated the feasibility of this procedure. The patient described in this report developed proved delayed occlusion of the saphenous vein graft with a fatal outcome. This was a result of intimal fibrous hyperplasia identical to that seen in adults following the placement of the saphenous vein bypass graft for treatment of atherosclerotic coronary disease.

Anomalous origin of the left coronary artery from the pulmonary artery is associated with a generally unfavorable prognosis, although survival past infancy related to the presence of adequate intercoronary anastomosis may occur. The high risk of sudden death even in asymptomatic patients has prompted general agreement favoring surgical intervention in spite of an apparently satisfactory clinical course.

Although ligation of the anomalous orifice has been carried out in patients having adequate intercoronary anastomoses with good clinical results, recent reports have favored graft anastomosis of the left coronary artery to the aorta, presumably reducing subsequent risks from atherosclerotic coronary disease and apparently providing a better perfusing pressure. Two cases of graft closure, one early and one late, have been described. These patients demonstrated retrograde filling of the left coronary artery from the right, and it has been postulated that occlusion of the graft should result in the same hemodynamics as simple ligation of the anomalous orifice. This report of a recent patient in whom delayed graft closure resulted in a fatal outcome indicates that this conclusion may not be correct.

**Case Report**

A nine-year-old girl was healthy until 2½ years of age, when she developed congestive heart failure with subsequent good response to administration of digitalis. She remained asymptomatic, and physical examination at nine years of age revealed mild cardiomegaly and a grade 3/6 short systolic murmur along the left sternal border with radiation to the left infraclavicular area. An electrocardiogram showed left axis deviation (−45°) and left ventricular hypertrophy. Small Q waves were present in leads I, aVL, and V₆. There were similar findings on a vectocardiogram, as well as clockwise inscription of the distal limb in the horizontal plane. The chest x-ray film demonstrated slight left ventricular enlargement. Cardiac catheterization revealed normal pressures and no evidence of shunting by oximetry. Hydrogen appearance

![Figure 1A. Aortic root cineangiogram, early phase with filling of dilated right coronary artery.](image-url)