Use of the Cervical Approach in the Treatment of Carcinosarcoma of the Upper Esophagus

Report of a Case

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To the 23 cases of polypoid carcinosarcoma of the esophagus found in the literature by Talbert and Cantrell,¹ they added four cases of their own. Of the 27 cases, 13 were treated by surgical resection, 12 of which were classed as curative. Five of these 12 patients died in the immediate postoperative period, an operative mortality in the curative resections of 42 per cent. This inordinately high operative mortality may be due to several factors. The average age in the operative cases was 60 years, a finding which should not in itself adversely influence the mortality rate. Many patients in the sixth and seventh decades of life undergo thoracotomy for resection of the esophagus for carcinoma. The fact that in nine of the 12 cases, the tumor was located in the upper or middle third of the esophagus is of some significance, since resection of the middle third of the esophagus is attended by a mortality rate in the range of 40 per cent.¹ Unlike epidermoid carcinomas, polypoid carcinosarcomas of the esophagus tend to show evidence of local spread and distant metastases only late in the course of the disease. Lymphatic invasion is rare. With this knowledge in mind and realizing the high mortality rate attending the resection of the upper and middle esophagus, a more limited resection may, on occasion, be advisable. This principle is illustrated by the following case.

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CASE REPORT

J.D., a 75-year-old white man, entered the Grace-New Haven Community Hospital on April 11, 1962 with a complaint of "lump in the throat" for the preceding year and of increasing dysphagia for four weeks. Swallowing solid foods was associated with pain originating in the neck and radiating down both arms. Blood-streaked vomitus had been noted for several days prior to admission. An x-ray study obtained prior to admission was thought to show achalasia. He was single and had lived as a recluse prior to transfer to a nursing home. A history of foreign body ingestion or "pica" could not be obtained. Weight loss was evident, but its extent could not be documented.

Physical examination revealed an emaciated white man who frequently expectorated white mucus. Vital signs were all within normal limits. A cervical mass could not be palpated. The lung fields were clear to auscultation, but there was dullness on percussion in the right parascapular region. There were no palpable abdominal organs or masses. No lymphadenopathy was noted. The admission laboratory data were within normal limits.

Roentgenograms revealed dilatation of the proximal esophagus which tapered sharply at the level of the tracheal bifurcation. Additional barium studies including cinefluorography demonstrated a large intraluminal tumor which could be coated with barium on all aspects except on the upper posterior surface where a pedicle attachment was presumed to be present (Fig. 1). Esophagoscopy revealed a tumor mass just distal to the cricopharyngeal level and a biopsy was interpreted as epidermoid carcinoma (Fig. 2).

Because of the high position of the tumor and the suspected high pedicle attachment, operation on April 16, 1962 was carried out through a left cervical incision. Through a generous longitudinal incision in the cervical esophagus, the tumor was readily visualized and its attachment by a small pedicle confirmed. Following transection through the base of the pedicle, the tumor was delivered without difficulty and the esophagus was closed in two layers. The cervical wound was drained. Oral feedings were begun on the second postoperative day. The patient's postop-
operative course was complicated by a cervical esophageal fistula which closed spontaneously on the seventh postoperative day, and urinary retention due to prostatic obstruction which later required transurethral resection.

A repeat esophagoscopy on June 4, 1962 demonstrated only scar tissue at the site of the excision. A barium esophagogram showed that the cervical esophagus had decreased greatly in size although not to its normal caliber. Eight months postoperatively, he underwent an emergency right colectomy for perforated adenocarcinoma of the right colon. At that time, there was no evidence of recurrent esophageal tumor

**Figure 1A:** Anteroposterior view of esophagogram demonstrating filling defect in upper thoracic esophagus. Pedicle at arrow. **Figure 1B:** Lateral view of esophagogram.

**Figure 2:** Biopsy of tumor showing nests of well-differentiated epidermoid carcinoma with keratin pearl formation in loose connective tissue stroma (x275).
FIGURE 3: Sarcomatous tissue adjacent to epidermoid carcinoma in original biopsy (x80).

and further decrease in esophageal caliber was noted an x-ray examination. He is well one year postoperatively and complains of no swallowing difficulties.

Pathology. The tumor was firm, yellow-white, pear-shaped and 6 x 5.5 x 3 cm. in size. The outer surface was glistening and smooth while the cut surfaces were marked by whorls of gray-white tissue. Microscopically, the tumor was composed of interlacing bundles of spindle-shaped cells varying moderately in size. The nuclei varied from regular ovoid shapes to large bizarre forms, and some cells were suggestive of rhabdomyoblasts. Mitoses were numerous and often bizarre; tri- and quadripolar mitotic figures were seen in many fields. Cross striations were not observed in sections stained with hematoxylin and eosin or Mallory's phosphotungstic acid hematoxylin. Mallory's trichrome and Laidlaw's connective tissue stains revealed only scanty collagen and no distinctive reticulin pattern. No carcinomatous regions were observed in these sections, but unfortunately sections were not taken near the pedicle where such regions might more likely have been encountered. A review of the biopsy which was originally interpreted as epidermoid carcinoma revealed the presence of sarcomatous elements as well. The carcinoma was well-differentiated with keratin pearl formation and superficial ulceration. Within the nests of carcinoma, the connective tissue stroma was unremarkable. Between and adjacent to these nests the stroma was sarcomatous and similar to that in the later specimen (Fig. 3). In one section, the sarcomatous portion extended beneath the adjacent normal esophageal epithelium. No definite regions of transition between the two types of tumor were observed.

Discussion

The clinical features of this case, including age, sex, location of tumor and duration of symptoms suggested a benign pedunculated tumor of the esophagus. Of the six patients with benign pedunculated esophageal tumors reported by Bernatz and his associates, five were men, all had symptoms of esophageal obstruction for six months to eight years, and five of the six tumors were attached by a pedicle arising just below the esophageal introitus. In three of these six patients, the cervical approach was used for excision of the tumor.

As in many other diseases of the esophagus associated with obstruction over a long period of time, pulmonary complications may be initiated by overflow and aspiration of esophageal contents. This type of aspiration pneumonitis must be treated vigorously with antibiotics and other supportive measures in the preoperative period, realizing, however, that the esophageal obstruction must be relieved in order to eliminate the underlying cause of the pulmonary problem.

As noted by Talbert and Cantrell, the diagnosis of carcinoarcoma should be included in the differential diagnosis of any polypoid lesion of the esophagus, particularly if a biopsy of the lesion reveals epidermoid carcinoma, since polypoid epidermoid carcinoma alone is rare indeed in the
esophagus. The surgical pathologist should be apprised of the polypoid nature of the lesion since, as in this case and at least one other, the sarcomatous portion may be overlooked in a biopsy containing carcinomatous elements. Should the biopsy reveal sarcoma, the general outlook is good since polypoid sarcomas of the esophagus have a more favorable prognosis than carcinoma.

REFERENCES


CONGENITAL HEART DISEASE

It would seem that the newborn and infant cardiac, rather than representing a group of patients too small and too sick to undergo operation, paradoxically is frequently too sick to postpone operation. A more vigorous attempt to establish definitive diagnosis and to instigate a surgical attempt at correction is therefore vigorously proposed to all who carry the responsibility for the care of sick children.


ESOPHAGEAL RESECTION FOR CANCER

Experiences with 202 esophagectomies for cancer are reported. The hospital death rate was 4.9 per cent. The incidence of post-surgical complications was 31.6 per cent. The main causes of death were cardiac and respiratory complications and anastomotic leakage. Leakage occurred in four instances, an incidence of 2 per cent. Successful esophageal resection depends on efficient management of underlying nutritional disturbances, satisfactory preparation of the cardiac and pulmonary systems and prompt correction of postoperative complications, and meticulous technique in performing the anastomosis.


EXERCISE-INDUCED PAROXYSMAL TACHYCARDIAS

The infrequent appearance of paroxysmal tachycardia after exercise tests has prevented statistical definition of the significance of the isolated finding of postoperative paroxysmal tachycardia in a patient in the coronary age group. The rationale for applying the usual statistics relating the incidence of heart disease in the various paroxysmal tachycardias to a solution of the problem is questioned. Any type of paroxysmal tachycardia may be benign or secondary to heart disease and may be induced on occasion by exercise. Paroxysmal supraventricular tachycardia and paroxysmal ventricular tachycardia are apparently more common after the relatively mild exercise of the double Master test than are paroxysmal atrial flutter and paroxysmal atrial fibrillation. The discovery of paroxysmal tachycardia after an exercise test should prompt careful clinical evaluation and followup examinations, but a diagnosis of probable underlying coronary artery heart disease should not be made on this basis alone.


RECURRENT PNEUMOTHORAX

The case of a 13-year-old girl with disseminated histiocytosis X is reported. Early in the course of the illness, she had a series of bilateral, spontaneous pneumothoraces. Thoracotomy revealed multiple small subpleural cysts and blebs. Lymph node biopsy established the correct diagnosis. The development of recurrent pneumothoraces is emphasized as a clue to the possible presence of underlying histiocytosis X.