Diagonal Abdominothoracic Incision as an Approach to Carcinoma of the Cardia and Upper Gastric Region

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ABSTRACT: An operative technique consisting of a diagonal epigastric incision extending to the left chest wall and severing the inner side of diaphragm adjacent to the pericardium to the hiatus is introduced. This technique was successfully used in 16 cases and the present surgical approach facilitates frontal visualization of the lower esophagus without disruption of the circulatory system. Furthermore, a sufficiently large operative field is obtained and radical dissection of cardia and upper gastric region or combined resection of infiltrated adjacent organs is facilitated. Postoperative recovery of pulmonary function in terms of PaO₂ and PaCO₂ was similar to that of patients who had received an upper median incision. We found no postoperative complications peculiar to the operative technique introduced here in any of the 16 patients.

KEY WORDS: cardia and upper gastric cancer, diagonal abdominothoracic approach, esophago-gastric junction.

INTRODUCTION

Radiographs, endoscopic findings and biopsy materials provide insufficient information for preoperative assessment of esophageal submucosal invasion of carcinoma of the cardia and upper gastric region. Carcinoma of these regions is frequently so advanced as to necessitate combined resection of the caudal pancreas, spleen and regional lymph nodes. Many of the patients presenting with these types of lesions are of advanced age and suffer from malnutrition and hypofunction of the cardiovascular, pulmonary and other organs. For these reasons, selecting between the transabdominal or transthoraco-abdominal approach is difficult.

In cases with carcinoma of the esophagogastric junction and/or upper and middle gastric region, excision via the transabdominal approach has led to some unsatisfactory results in oral wedge positive cases. Therefore, we now perform an epigastric diagonal incision which is extended toward the left thoracotomy, while incising the medial pericardial diaphragm from the edge to the hiatus. This is done after confirming via the diagonal incision, that the esophagogastric lesions can be radically removed. Although this approach is not without risks, especially in patients suffering from malnutrition, it facilitates the execution of complicated surgical procedures and makes possible the detection of otherwise unnoticed lesions in this area.

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Operative Technique

In this approach, the patient lies almost supine with the left side of the back lifted somewhat. This positioning is better than a right lateral position because a front view of the lower esophageal region can be obtained following incision of the medial pericardial diaphragm.

A diagonal skin incision is made from the middle of the left costal margin, passing the midpoint between the xiphisternum and the umbilicus to the edge of the right rectus muscle (Fig. 1). It is deepened through the anterior abdominal wall layers and finally severs the ligamentum teres hepatis under double ligation. The cardia, the area around the cardia and other parts of the peritoneal cavity can now be examined to determine whether the transabdominal or the transabdominothoracic approach should be selected. When extensive resection of a part of the lower esophagus is indicated, the incision is extended toward the left thoracic area as far as the left middle or the posterior axillary line. Thoracotomy is done by left 7th or 8th rib resection or intercostal incision (Fig. 2). Next, the ligamentum triangular sinistra is severed from the left diaphragm and the left hepatic lobe can be retracted to the right side. The diaphragm is incised from the edge through medial

Fig. 1. A diagonal skin incision extending to the left thoracic wall.