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ORIGINAL ARTICLE

Transhiatal Oesophagectomy and Lymph Node Clearance in a Teaching Hospital

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ABSTRACT

Introduction: Transhiatal Oesophagectomy for resectable oesophageal carcinoma has been gaining popularity and acceptance as a reasonably safe procedure, given the question over the choice of procedure for these patients who are nutritionally depleted and the limitations of preoperative evaluation methods. The purpose of this study was to find the lymph node retrieval rate and to assess Transhiatal Oesophagectomy (THE) as practiced in this centre as a means of node clearance.

Methods: A retrospective audit of patients who were found fit and who underwent THE between 2004 and 2008 was done. Operative notes and histopathology reports of all patients were scrutinized. A total of 16 out of 60 patients underwent the procedure. There were no major complications in these patients and no in-hospital mortality.

Results: Out of the 16 patients who were fit to undergo THE, 8 had no nodes found on HPE, 4 had 1-3 nodes and only 2 had greater than 10 nodes which were retrieved during surgery. Post-operative complications were few and there was no in-hospital mortality.

Conclusion: The transhiatal approach may not be a reliable means of removing intrathoracic nodes during Oesophagectomy for carcinoma. However, a larger study directly comparing this to a transthoracic approach in the Asian population may be necessary.

Key Words: Surgery, Lymphnode, Transhiatal

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upper GI endoscopy, ultrasound scan abdomen, chest X-Ray, CT thorax, Endoscopic Ultrasound (EUS) with guided FNA, PET, Thoracoscopy and laparoscopy where available.

The two most important prognostic factors for OC are tumour depth and nodal status [1],[2],[3] with outcome, depending on the stage of the disease. The staging accuracy by modality ranged from 49-60% and 80-92% for tumour depth and 39-74% and 45-100% for nodal status by CT and EUS respectively, while MRI and PET showed 56-74% and 76-87% accuracy for nodes respectively [4].

Introduction

Oesophageal carcinoma patients present to hospital at varying stages of disease and therefore, with varied stages of nutritional depletion. Routinely, the work up of patients with oesophageal carcinoma (OC) was with

Survival in oesophageal cancer is decided on the basis of surgical respectability and the presence of nodal disease. Current non invasive modes of staging appear far from optimal in detecting abdominal and thoracic lymph node status. The minimal invasive methods used were laparoscopy and thoracoscopy which were more useful with obstructing lesions which prevented EUS. The aim of this study was to find the extent of lymphadenectomy, both thoracic and abdominal, during conventional Transhiatal Oesophagectomy as practiced in our centre, in operable patients who were considered fit to undergo the procedure. Test of operability was a combination of nutritional status, Endoscopy, Barium swallow and CT chest and abdomen.

Methods

A total of 60 patients were seen at our hospital between 2004 and 2008, with biopsy confirmed oesophageal carcinoma, of which 16 were considered fit to be operable and to undergo the procedure. Preoperative Endoscopy, pulmonary function tests and CT chest and abdomen were done to assess operability following the usual criteria. Patients with extension of the tumour outside the oesophagus (>T3), pr, Para tracheal, carinal nodes >2cm on CT, >M0 status, visceral metastasis, celiac or other abdominal nodes, neck nodes or distant metastasis were excluded from the study, as were patients who declined surgery or had medical/respiratory conditions which prevented safe elective surgery, > ASA III.

The access was through an upper midline laparotomy with sub-umbilical extension. An exploration was done to confirm operability through laparotomy. Any extension to the diaphragm and pericardium, preventing R0 resection or an extension to the stomach preventing 5cm margins on the stomach with a usable stomach remnant was looked for. All patients were planned with reconstruction with stomach. Trans Hiatal

dissection was commenced with a view to look for extension outside the oesophagus, trachea, or mediastinum.

Once operability was confirmed, the stomach was mobilized by retaining the right Gastric and gastroepiploic vessels, by removing all nodes within the branches of the celiac trunk and excluding those along the splenic artery and hilum. Splenectomy was not performed in any patient. The hepatoduodenal ligament was removed with the tumour and nodes. Cervical dissection was done with an oblique left incision anterior to the sternomastoid muscle. Neck dissection was not done.

The nodes were not separately dissected from the specimen or collected from node areas separately before sending for histopathological examination. Any palpable nodes in the chest were cleared only if visualization could be achieved to ensure safe removal. All operations were performed by surgeons (3 separate teams) who routinely performed oesophagectomies for benign and malignant diseases.

The nodes were examined by pathologists who were routinely involved in seeing Carcinoma oesophagus specimens.

Results

Out of a total of 60 patients who were diagnosed, 16 patients were found fit to undergo surgery and resection by the Transhiatal approach. 14 were males and 2 were females. The median age was 54yrs (age range -36-83yrs). 13 patients regularly had alcohol and smoked. 10 were squamous cell carcinomas, and 6 were adenocarcinomas. There were 6 mid 1/3 tumours, 4 lower 1/3 tumours and 5 of the GE junction as found on endoscopy. One patient had a growth extending from the mid to the lower third on gross pathological examination.

No nodes were found in 8(50%) patients, 1-3 nodes were found in 4(25%), 4-9 were

found in 2(12.5%), and greater than 10 nodes were found in only 2(12.5%) patients.

Discussion

The number of metastatic nodes is recognized as an important prognostic factor in oesophageal cancer. The UICC recommends a minimum of 6 retrieved nodes for an accurate nodal classification [5]. Other than the number, the ratio of nodes was also found to have a prognostic value [6],[7].

‘THE’ has been a method of resection of OC for its advantage of fewer post operative complications and shorter hospital stay. There has been considerable number of discussions regarding whether extensive lymph node dissection should be attempted to improve staging and thus predict survival better. However, the additional value of formal mediastinal lymph node dissection remains controversial in western patients, especially with the concept that lymph node involvement may reflect systemic micrometastatic disease and that extended resections will not alter the natural history of this disease [8]. Advocates of a transthoracic Oesophagectomy have suggested that the transhiatal approach limits the ability to achieve an R0 resection [9],[10],[11].

In his study, it has been found that Transhiatal surgery may not lead to a satisfactory number of nodes removed, thus limiting the ability to remove positive nodes and affecting staging and survival. The Transthoracic approach was not being very popular or being widely practiced in this institution and hence, no comparison could be made between the two. Very few studies have been found to focus on node retrieval in the Asian population via the Transhiatal approach for Oesophagectomy.

Conclusion

The transhiatal approach, though better in terms of lesser in-hospital mortality,

morbidity and fewer long term postoperative complications, has been found to be inadequate in terms of the removal of a maximum number of abdominal or thoracic nodes. This has limited the ability to predict higher stage groups and their subsequent need for additional treatment like chemotherapy or radiotherapy following surgery, leading to similar treatment regimes being offered to these patients. More detailed and larger studies may be needed in our population to interpret the impact of Transhiatal oesophagectomy.

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