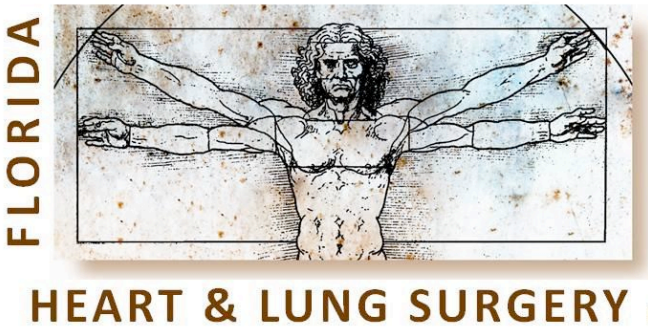
Review of Thoracic Surgical Oncology



Presented and distributed by Florida Heart and Lung Surgery

Edited by Dr. K. Eric Sommers, MD, FACS

August 2011 Volume 1; number 1

Editor's note: I am pleased to announce the inauguration of the Review of Thoracic Surgical Oncology, a monthly review of the literature devoted to the surgical treatment of chest cancers. I hope that you will find this review helpful as a way to quickly scan the latest developments in thoracic surgical oncology. Please feel free to contact me with suggestions and comments. You can use your internet browser to view the Review at flhls.com/review.php or scan the QR code below.

Mortality of pneumonectomy

Right sided pneumonectomy carries twice the mortality of left sided resection

Ann Thorac Surg 2011;92:244-249. doi:10.1016/j.athoracsur.2011.03.021:

This study evaluated the effect of laterality on survival in patients who underwent pneumonectomy for lung cancer.

Methods: We reviewed the Surveillance, Epidemiology, and End Results (SEER) database for patients who underwent pneumonectomy for lung cancer from 1988 through 2006. Predictors of survival were determined by univariate and multivariable analysis.

Results: A total of 9746 patients had pneumonectomies. Left pneumonectomies (56%) were more common than right; 67% of patients were men with mean age of 63 years (range, 12 to 92 years). Tumor pathology was squamous cell in 49% and adenocarcinoma in 34%. Stage distribution was stage I, 28%; stage II, 28%; stage IIIA, 19%; stage IIIB, 18%; and stage IV, 6%. Overall survival was 67% and 40%, respectively, at 1 and 3 years; with 63% and 39% for right vs 70% and 41% for left (p <0.001). Mortality at 1 and 3 months was 8% and 16% for right pneumonectomies and 4% and 9% for left (p <0.001). Multivariate predictors of worse survival were right pneumonectomy, age, stage, male sex, tumor size, grade, prior malignancy, not married, number of positive lymph nodes, and fewer lymph nodes evaluated (all p <0.05). The adjusted hazard ratio for right pneumonectomy was 1.12 (95% confidence interval, 1.07 to 1.18; p <0.00001). For 3-month survival, right pneumonectomy had an adjusted odds ratio of 2.01 (95% confidence interval, 1.77 to 2.29; p <0.001). Neoadjuvant radiotherapy did not affect 3-month survival (adjusted odds ratio, 0.88; 95% confidence interval, 0.1 to 7.03, p = 0.9).

Conclusions: A right pneumonectomy is associated with approximately twice the perioperative mortality as a left pneumonectomy. However, neoadjuvant radiotherapy does not appear to add incremental risk, and long-term survival is not affected by laterality.

Editor's commentary: This retrospective review of the national SEER database examined early and late outcomes following pneumonectomy. Right sided pneumonectomy has long been known amongst surgeons to carry a higher risk versus left sided resection mostly because of a higher risk for stump break down on the right. Look at the 1 month mortalities: 16% for right and 8% for left....that re-enforces what a challenge pneumonectomy remains for both patients and surgeons. It is re-assuring that pretreatment did not add risk in this particular study.

Second lung cancer

Resection of second, metachronous lung cancer can provide good long-term survival

Ann Thorac Surg 2011;92:256-262. doi:10.1016

Background: This study was designed to assess the treatment of patients in whom a second primary lung cancer developed after the resection of primary lung cancer.

Methods: Between January 1990 and December 2008, 1852 patients underwent complete resection for primary lung cancer in our institution. Of these individuals, patients who had been identified as having a second primary lung cancer by December 2009 were selected for this study using the criteria proposed by Martini and Melamed.

Results: Of 1852 patients, a second primary lung cancer developed in 40 (2.2%) during the follow-up period. The overall 5-year and 10-year survival rates after the resection of the first tumor were 78.3% and 39.9%, respectively. The overall 5-year survival rate from the time of detection of the second primary lung cancer was 47.8%, and the 5-year survival rate of the patients who underwent resection of the second tumor was 77.0%. The patients who underwent sublobar resection had comparable overall survival and disease-free survival compared with the patients who underwent anatomic resection. Additionally, the patients who underwent sublobar resection had a better operative outcome.

Conclusions: Surgical resection is feasible and effective in the management of second primary lung cancer, and sublobar resection may be adequate. Long-term surveillance of more than 5 years is essential for early detection to increase the chance of resection of a second primary lung cancer.

Editor's commentary: This finding is similar to my experience that second resections, even on the side of previous resection, can lead to good long term outcomes. "Sublobar resection" or segmentectomy is a particularly good choice for these patients.

Thymoma

Adjuvant RT benefit confirmed again in Thymoma

abstract and J Thorac Oncol. 2011 Jun 2. [Epub ahead of print]Postoperative Radiotherapy for Completely Resected Stage II or III Thymoma.

Chang JH, Kim HJ, Wu HG, Kim JH, Kim YT. Departments of Radiation Oncology and Cancer Research Institute, Seoul National University College of Medicine; †Institute of Radiation Medicine, Medical Research Center, Seoul National University; and ‡Department of Thoracic and Cardiovascular Surgery, Seoul National University College of Medicine, Seoul, Republic of Korea.INTRODUCTION:We assessed the efficacy of adjuvant radiotherapy (RT) in patients with stage II or III thymoma and evaluated the prognostic factors after the treatment.PATIENTS AND METHODS:The medical records of 76 patients with completely resected stage II (n = 65) or III (n = 11) thymoma treated at a single institution within the period from November 1988 to February 2009 were retrospectively reviewed. Seventeen patients were treated with surgery only (group A), and 59 patients received adjuvant RT after surgery (group B). The median radiation dose was 50 Gy (range: 43.2-66 Gy). The prognostic factors, such as age, myasthenia gravis symptom, tumor size, staging, adjuvant RT, and radiation dose, were analyzed. The median follow-up time was 58.5 months (range: 6-231 months).RESULTS:The 5- to 10-year overall survival and disease-free survival (DFS) rates were 95.3% and 83.8% and 91.5% and 82.5%, respectively. The 5- and 10-year DFS (80% and 70% and 97.8% and 92.7% in groups A and B, respectively; p = 0.043), and the median time to recurrence (37.4 and 50.6 months in groups A and B, respectively) was statistically different between groups A and B.CONCLUSION:Masaoka staging and adjuvant RT were related to DFS in completely resected stage II or III thymoma. Based on this study, adjuvant RT will be beneficial in this clinical setting.

Editor's commentary: This is a retrospective study from a single institution but it reports results similar to most of the literature for adjuvant radiotherapy for completely resected, locally advanced thymoma: both long term survival and disease free survival are improved with adjuvant RT.

Scan the QR code with your QR scanner to browse to the Review web page

Surgery for high grade esophageal dysplasia

Esophagectomy for high grade dysplasia reveals hidden adenocarcinoma in 40% of cases

Eur J Cardiothorac Surg 2011;40:113-119. doi:10.1016/j.ejcts.2010.10.020Objective: Esophageal high-grade dysplasia/tumor in situ (HGD/Tis) management is in evolution. However, treatment decisions must be made on clinical staging, which may not reflect pathologic staging. Long-term randomized trial information, large treatment series, and cancer registry data do not exist to guide treatment decisions. This evaluation of esophagectomy for clinically diagnosed HGD (cHGD) serves as a reference point for future therapies. Methods: From a 1296-patient prospective esophagectomy database, 134 patients were diagnosed with cHGD (HGD without detectable mass at biopsy) before esophagectomy (mean age 60 ± 10 years, 120 [90%] male, and 132 [99%] Caucasian). Median follow-up was 7.1 years. Results: Histopathologic cell type was adenocarcinoma in 124 (93%) patients. Pathologic T (tumor) classification (pT) was 77 (57%) pHGD, 46 (34%) pT1a, eight (6%) pT1b, and one each (1%) indefinite for dysplasia, low-grade dysplasia, and pT2. Three (2%) had regional lymph node metastases (pT1N1M0). There was one hospital death (0.7%) and four deaths from recurrent cancer. Survival at 1 month, 6 months, and 5, 10, and 15 years was 99%, 97%, 96%, 94%, 82%, and 75%, respectively. Survival was at least that of a matched population. Older age and poor lung function predicted worse survival. Sixteen patients developed nonesophageal cancers, 6.1 times greater than expected. Conclusions: Despite clinical staging errors, survival following esophagectomy for cHGD is excellent. The diagnosis of cHGD does not alter survival referenced to the matched general population; however, cHGD patients appear to be at increased risk of second nonesophageal primary cancers. Therapy for cHGD should be patient specific, because patient and not cancer characteristics determine survival.

Editor's commentary: This retrospective review from the Cleveland Clinic shows that high grade dysplasia frequently harbors invasive adenocarcinoma. However, prognosis overall is excellent. Esophagectomy for high grade dysplasia remains an operation with gratifying results.

Metastasectomy for colon cancer

Good survival can be achieved in patients requiring lung and liver resection in metastatic colon cancer

J Am Coll Surg. 2011 Jul;213(1):62-9.

Improved survival after resection of liver and lung colorectal metastases compared with liver-only metastases: a study of 112 patients with limited lung metastatic disease.

Brouquet A, Vauthey JN, Contreras CM, Walsh GL, Vaporciyan AA, Swisher SG, Curley SA, Mehran RJ, Abdalla EK.

SourceDepartment of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX.

BACKGROUND:Lung metastases are considered a poor prognostic factor in patients with resectable colorectal liver metastases.

STUDY DESIGN:We reviewed records of 1,260 consecutive patients with liver-only or liver-plus-lung (L+L) metastases from colorectal cancer who underwent resection with curative intent (1995 to 2009). Survival and prognostic factors were analyzed.

RESULTS:There were 112 patients who underwent resection of L+L (mean 2 liver, 2 lung metastases). Mean tumor sizes were 3 cm and 1 cm, respectively. Thirty-four (31%) had bilateral lung metastases. Ten (9%) had synchronous L+L metastases, 60 (54%) had diagnosis of lung metastases within 1 year of liver resection. Most (108 of 112, 96%) had resection of liver before or at the same time as lung. Preoperative chemotherapy was used in 77 (69%) before liver resection and 56 (50%) before lung resection. Among L+L patients, no postoperative deaths occurred; postoperative morbidity rates were 26% after liver resection and 4% after lung resection. After a median of 49 months follow-up, L+L patients (n = 112) had better survival than liver only (n = 1,148) (5-year overall survival, L+L, 50% vs liver only, 40%; p = 0.01). CEA level > 5 ng/dL (hazard ratio [HR] 2.1, 95% CI 1.1 to 4.4, p = 0.04) and rectal primary (HR 2.9, 95% CI 1.4 to 6, p = 0.004) were associated with worse survival in L+L patients.

CONCLUSIONS:The survival rate for patients who undergo resection of L+L metastases from colorectal cancer is greater than the survival rate of the general population of patients who undergo resection of liver metastases only. The presence of resectable lung metastases is neither a poor prognostic factor nor a contraindication to resection of liver metastases.

Editor's commentary: This report from MD Anderson shows that an aggressive approach in metastatic colorectal cancer can lead to good results in selected patients.

Please contact us with questions, suggestions, or complaints. If you would prefer to receive the Review in electronic format, please email us. If you would prefer not to receive the Review at all, please inform us and we will be happy to remove you from our distribution list.

Contact us:

Florida Heart and Lung Surgery

509 South Armenia Blvd; Suite 200, Tampa, Fl 33609

email: esommers@flhls.com tel: 813 348-0180

website: flhls.com

Scan the QR code with your QR scanner to browse to our website

---

Florida Heart and Lung Surgery

509 South Armenia Blvd; Suite 200,
Tampa, Fl 33609