Less Could Be More For Malignant Pleural Mesothelioma – Patients With Over 3-Year Median Survival Show No Significant Difference Between Radical Surgery and a Less Invasive Approach

Objective: Surgery for malignant pleural mesothelioma (MPM) remains unstandardized and highly variable. Lung-sparing surgery appears to be the most common approach, with many surgeons advocating 100% surgical resection of all pleural surfaces, including visceral – which causes the most common morbidity and management challenges, persistent air leaks. The goal of this study was to see if a visceral pleural-sparing approach resulted in decreased survival.

Methods: A single-institution cohort of 55 consecutive patients undergoing surgery for MPM was retrospectively reviewed. Comparison was made between the epithelioid patients who underwent 100% resection of the visceral pleura to those where the visceral pleura was preserved, but treated with ablative therapy - primarily bipolar cautery. All patients also received intraoperative heated povidone-iodine lavage.

Results: The median overall survival for the 42/55 patients with epithelioid histology was 42 months (79 % (33/42) stage III/IV, 58 % (16/42) tumor volume greater than 500 ml). 57% (24/42) underwent 100% surgical resection of the visceral pleura, while 43% (18/42) had partial to complete visceral pleural preservation, with a median survival of 43 months and 57 months (p 0.72), respectively. A multivariable regression model, controlling for multiple potentially confounding factors, revealed no evidence of a significant association between overall survival and the use of a visceral pleural sparing approach (p = 0.11).

Conclusions: These results are provocative, not conclusive, but suggest that it may be possible to preserve the visceral pleura in some patients undergoing surgery for MPM, without compromising survival results. Surgery for MPM is not considered standard of care but is, arguably, the largest palliative operation surgeons perform. These results suggest that there may be a technique that limits the radicality and morbidity of this operation and, we believe, merits further exploration.

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Kaplan-Meier overall survival analysis stratified by complete resection (black) versus visceral pleura sparing (grey) approach in patients undergoing pleurectomy/decortication for epithelioid subtype malignant pleural mesothelioma (n = 42).