Commentary: Biphasic malignant mesothelioma— Survival of the fittest

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Central Message

Although cancer-directed surgery can be an acceptable strategy for selected patients with biphasic mesothelioma, it remains unclear whether surgery improves survival.

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Malignant pleural mesothelioma (MPM), a rare and aggressive malignancy, represents a spectrum of histologic subtypes—epithelioid, biphasic, and sarcomatoid, with the latter 2 having significantly worse overall survival.¹ Biphasic MPM accounts for approximately 11% of diagnosed cases of MPM,² and guidelines from National Comprehensive Cancer Network indicate that early stage, node negative, biphasic MPM can be considered for surgery only after multidisciplinary evaluation, and only in centers experienced in the treatment of MPM. The National Comprehensive Cancer Network then places the caveat that biphasic MPM and sarcomatoid MPM carry a poor prognosis and are both contraindications for surgical intervention.³ Certainly, the role of cancer directed surgery in biphasic MPM remains controversial at best.

Large retrospective reviews support surgical management in biphasic MPM, suggesting a 6-month improvement in survival with cancer-directed surgery^{4,5} when evaluating patients in the National Cancer Database. The optimum surgical strategy—that is, lung-sparing or lung sacrificing—for treating MPM is also not defined, although there appears to be equivalence in survival between pleurectomy and decortication versus extrapleural pneumonectomy.⁶ What is generally agreed on is the goal of a complete pathologic resection.⁷ Originally described by Sugarbaker,⁸ complete pathologic resection is by definition an R1 resection—removing all visible disease.

In this issue of *The Journal of Thoracic and Cardiovascular Surgery*, Lococo and colleagues⁹ present the combined experiences of 4 European centers in treating biphasic MPM, finding improved survival for patients undergoing cancer-directed surgery relative to chemotherapy alone or best supportive care. A key finding is that survival was influenced by performance status, percentage of expected forced expiratory volume in 1 second, and TNM stage. This large series is a welcome addition to the literature; however, the results of Lococo and colleagues⁹ should be interpreted with caution. They analyze a large

multicenter data set that ultimately lacks granularity. Although they report on functional status, they do not present a comorbidity index, rather grouping comorbidities into a binary variable. In addition, percentage of expected forced expiratory volume in 1 second is divided into 30% to 80% and greater than 80%, likely selecting for patients with less severe disease. Finally, their series reports a 40% complete pathologic resection rate, a rate lower than that reported in the series of Batirel and associates,¹⁰ but also with no data on tumor volume or the need to remove the diaphragm.

Ultimately, we cannot determine whether the observed improved survival with cancer-directed surgical treatment was due to the treatment effect or from improved baseline prognosis. The fact that the surgical group patients were younger and had better performance status and lung function, coupled with the finding that macroscopic complete resection had no effect on survival, would argue for the latter. Lococo and colleagues⁹ show that cancer-directed surgery can be an acceptable strategy for patients with biphasic MPM. This observation in and of itself is an important finding that may help to make decisions in appropriately selected cases. We hope that the forthcoming Mesothelioma and Radical Surgery 2: a Multicentre Randomised Trial Comparing (Extended) Pleurectomy Decortication Versus no (Extended) Pleurectomy Decortication for Patients With Malignant Pleural Mesothelioma trial will provide some clarity for this controversial topic.

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