Special issue: mesothelioma

This special issue of the *Annals of Translational Medicine* details an in-depth description of the most relevant topics on malignant pleural mesothelioma (MPM). The discussions include fascinating discoveries that deepened our understanding of the environmental and genetic exposures that cause this aggressive disease, reviews of traditional and novel approaches to staging it, and the complex multimodality therapies that have improved outcomes from no long-term survival to 15–24% 5-year-survival with treatment. Up-to-date reviews of radiation therapy are presented, including the latest results and commentary on induction radiation and hemithoracic radiation after pleurectomy/decortication (P/D). This issue offers perspectives on novel systemic therapies (such as immunotherapy), adjuncts (such as intraoperative heated chemotherapy), and insight into disease-related and treatment-related complications, with nuanced presentation of the management of MPM that has metastasized to the abdomen and traditional approaches to peritoneal mesothelioma that is a primary malignancy of the abdomen.

Surgery is explored, including an overview of relevant randomized controlled trials, details and comparison of the two main operations performed for MPM [extrapleural pneumonectomy (EPP) and radical P/D], and quality of life implications for patients undergoing surgery. Most mesothelioma studies represent reports of only subsets of patients. The methods frequently circumvent the principle of intention-to-treat analysis and the results lose generalizability, a flaw that historically led to overly enthusiastic surgical support for EPP. Although there remains controversy over whether surgery is an effective treatment modality in MPM, P/D is now the procedure of choice if resection is to be performed, based on analyses of more balanced data. As described in this issue, multiple studies have demonstrated similar overall survival for either procedure but higher operative, 90-day, and 1-year mortality for EPP, and quicker time between recurrence and death for EPP compared to P/D. The goals of surgery are to remove as much tumor as possible while avoiding pneumonectomy, maximize lung expansion, prevent recurrent pleural effusion, and minimize morbidity and mortality. We believe EPP still has a role in the surgical treatment of MPM, particularly in fit patients whose tumor cannot be removed without pneumonectomy, but these are select patients and this situation is rarer than appeared from historical studies.

This issue addresses these and other insights into the challenges, successes, and room for progress in MPM. We thank the contributing authors and their colleagues for their commitment to the field and dedicating their time in summarizing these important topics to facilitate education for a broad audience who will benefit from their expertise.

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