Medical Xpress

Statistical model may identify patients most likely to benefit from surgery for mesothelioma

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A new statistical model may help predict which patients are most likely to receive life-extending benefits from surgical treatment for malignant pleural mesothelioma (MPM), according to an article in the September 2015 issue of The *Annals of Thoracic Surgery*

Key points

- A new statistical model may help identify which patients will benefit most from surgery for malignant pleural mesothelioma.
- Younger age, no history of asbestos exposure, epithelioid histology, and a low number of affected lymph nodes were strongly associated with better survival after surgery.
- Further studies are needed to validate this statiscial model and assess its utility in clinical practice

MPM is an aggressive cancer that affects the lining of the chest cavity (pleura). The main cause of mesothelioma is believed to be repeated exposure to asbestos, which is a naturally occurring group of minerals found in soil and rocks around the world. Asbestos was previously used to make fireproof materials, such as theater curtains, insulation, flooring, and workers' gloves, and is still used in some products today. About 3,000 cases of mesothelioma are diagnosed in the US each year, with many more worldwide. There is frequently a lag time of twenty years or more between exposure to asbestos and the development of the disease.

Currently, there is no cure for advanced stage mesothelioma, and the 5-year survival rate is only about 10%.

"The therapy for malignant pleural mesothelioma is still somewhat controversial, and the optimal surgical approach is still a matter of debate," said Giovanni Leuzzi, MD, from Regina Elena National Cancer Institute in Rome, Italy,who led the study. "Our study found clinico-surgical factors that can indicate which patients will benefit the most from surgery so that patients and their phsicians can better decide the optimal course of therapy."

Dr. Leuzzi and colleagues studied 468 patients with MPM who had undergone extrapleural pneumonectomy (EPP, a surgical treatment that involves removal of a lung, the affected chest lining, the diaphragm, and the heart lining). Previous research has shown an average 10 month survival for patients treated by EPP alone. In this study, 107 EPP patients (22.9%) survived at least 3 years after surgery. Characterists that were most strongly associated with long-term survival included younger age, no history of asbestos exposure, an epithelioid subtype of mesothelioma and a low number of affected lymph nodes.

"Based on these findings, we have built a scoring system by combining the above-mentioned factors. This easy-to-use model could help physicians in stratifying the treatment outcome and, eventually, tailoring postoperative treatment by identifying those patients who require close surveillance or more aggressive cancer therapy," said Dr. Leuzzi. "Unfortunately, MPM still has a poor prognosis, even after surgery."

He added that further studies will be needed to validate the statistical scoring model in order to assess its utility in clinical practice.

  More information: "Prognostic Score of Long-Term Survival After Surgery for Malignant Pleural Mesothelioma: A Multicenter Analysis."

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