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学位論文の題名	<p>Survey of malignant pleural mesothelioma treatment in Japan: Patterns of practice and clinical outcomes in tomotherapy facilities (本邦における悪性胸膜中皮腫への根治的トモセラピー治療 : 遡及的解析)</p> <p>Journal of Radiation Research, Volume 63, Issue 2, March 2022, Pages 281-289, <a href="https://doi.org/10.1093/jrr/rrab127">https://doi.org/10.1093/jrr/rrab127</a></p>
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Malignant pleural mesothelioma (MPM) is a rare neoplasm arising from the mesothelial surfaces of the pleural cavities, and the standard treatment for MPM remains controversial. We conducted a nationwide survey of tomotherapy for MPM in Japan. Fifty-six facilities were surveyed and data on 31 patients treated curatively between 2008 and 2017 were collected from 14 facilities. Twenty patients received hemithorax irradiation after extrapleural pneumonectomy (EPP) (first group). Five patients received irradiation without EPP (second group), while six received salvage radiotherapy for local recurrence (salvage group). Among the seven patients not undergoing EPP, five (four in the second group and one in the salvage group) were treated with lung sparing pleural irradiation (LSPI) and two with irradiation to visible tumors. Two-year overall survival (OS) rates in the first and second groups were 33% and 60%, respectively (median, 13 vs 30 months,  $P = 0.82$ ). In the first and second groups, 2-year local control (LC) rates were 53 and 67%, respectively ( $P = 0.54$ ) and 2-year progression-free survival (PFS) rates were 16% and 60%, respectively ( $P = 0.07$ ). Distant metastases occurred in 15 patients in the first group and three in the second group. In the salvage group, the median OS was 18 months. Recurrence was observed in the irradiated volume in four patients. The contralateral lung dose was higher in LSPI than in hemithorax irradiation plans (mean,  $11.0 \pm 2.2$  vs  $6.1 \pm 3.1$  Gy,  $P = 0.002$ ). Grade 3 or 5 lung toxicity was observed in two patients receiving EPP and hemithorax irradiation, but not in those undergoing LSPI. In conclusion, outcomes of EPP and hemithorax irradiation were not satisfactory, whereas LSPI appeared promising and encouraging.