令和7年度獨協医科大学大学院医学研究科入学者選抜試験問題

試験時間９０分

科　　目	英　　語	試験日時	令和６年 11 月９日(土)10：30 - 12：00	
受験番号	番	氏　　名		

問題１．米国では、合法的なオピオイド系鎮痛薬（モルヒネ、ヘロイン、フェンタニル、トラマドールなど）が過剰に処方され、何百万人もがオピオイド中毒となっており、大きな社会問題とされています。下記論文(JAMA 2024)は、最近の米国での若者のオピオイド系鎮痛薬のdrug abuseの疫学研究です。下記の英文を読み、設問に答えなさい。

著作権の都合上、掲載を差し控えております

(出典：JAMA 2024)

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設問１． 下線部①を和訳しなさい。

設問２． 下線部②で、筆者たちはどのような統計手法をもちいて解析したか簡潔に述べなさい。

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問題２．下記の英文を読み、設問に答えなさい。

INTRODUCTION

Pleural mesothelioma (PM) is an aggressive cancer caused by exposure to asbestos. Although many developed countries have banned the use of asbestos, middle- and low-income countries continue to utilize asbestos. The estimated number of global mesothelioma deaths is currently up to 38,000 per year and increasing. The largest database of PM is the International Association for the Study of Lung Cancer (IASLC) database. The IASLC, in collaboration with the International Mesothelioma Interest Group (IMIG), developed its first international database in 2009 to update the IMIG staging system introduced in 1994. The staging systems based on the first and second IASLC databases were accepted in the seventh and eighth editions of the Union for International Cancer Control UICC/American Joint Commission on Cancer (AJCC) manuals, ①respectively. The majority of the large number of available retrospective nationwide databases are used for epidemiological purposes, while few have complete data on patient treatment, clinical courses, and patient outcomes. Retrospective studies focused on patient prognosis factors, but only a few were prospective, multicenter studies. These limitations lead to difficulties in decision-making regarding treatment strategies for newly diagnosed/untreated PM patients. Therefore, in our study, we conducted a nationwide prospective registry of newly diagnosed, untreated PM. To the best of our knowledge, this is the first nationwide prospective registry. This study was conducted as the ninth project of the Japanese Joint Committee for Lung Cancer Registry (JJCLCR). JJCLCR has contributed to the establishment of the staging system of lung cancer through several nationwide registries, including a prospective one. ②The main study aims were to clarify the following issues in newly diagnosed/untreated PM patients in Japan: current status of surgical and non-surgical treatment; surgery completion rate, mortality and morbidity and survival for all patients undergoing surgical intervention; macroscopic complete resection (MCR) as the goal of curative-intent surgery; tumor shape, tumor thickness, and the sum of three-level thickness (STLT) as possible prognostic factors; and feature and prognostic power of the seventh and eighth staging systems.

PATIENTS and METHODS

Study setting

The JJCLCR conducted a prospective observational cohort study enrolling patients first diagnosed with PM between April 1, 2017, and March 31, 2019, in Japan. The study protocol is described in Supplementary File S1.

Inclusion criteria

All patients newly diagnosed according to pathological (including cytology) findings including any subtype of PM in Japan between April 1, 2017, and March 31, 2019, were included. Patients were not given any treatment before registration.

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Variables

The case report form is shown in Supplementary File S2. The following data were collected and analyzed: (i) demographic characteristics including date of registration, sex, and date of birth; (ii) preoperative status including Eastern Cooperative Oncology Group performance status (PS), preoperative comorbidities (e.g., asbestos exposure and smoking), laboratory values (including tumor markers), radiological findings (tumor shape, tumor thickness, and maximum standardized uptake value of the pleura on fluorodeoxyglucose positron emission tomography), and respiratory function tests; (iii) details of diagnosis (e.g., date of diagnosis, diagnostic method, immunohistochemical evaluation results, histologic type, and clinical stage based on both seventh and eighth AJCC/UICC staging systems); (iv) surgical treatments, including induction therapy, surgical interventions, combined resection, status of residual tumor, and postoperative morbidity; (v) postoperative pathological diagnosis and stage based on both seventh and eighth AJCC/UICC staging systems; (vi) chemotherapy regimen; (vii) radiotherapy characteristics, including irradiated sites and type of radiation therapy (RT); and (viii) follow-up data including date of last follow-up, vital signs and symptoms during last follow- up, and date and location of initial relapse.

Radiological examination

Localized PM was defined according to Allen's criteria. All the cases were classified into three categories according to the radiological appearance of the tumor: minimal, nodular, or rindlike. Tumor thickness was measured (　　③　　) the IASLC report. Briefly, measurements of tumor thickness perpendicular to the chest wall or mediastinum on axial imaging were made, representing the upper, middle, and lower third of the hemithorax.

Diagnosis at registration

In the cases where PM was diagnosed by only cytology, the date of diagnosis was recorded as the date of thoracentesis. In cases where biopsy was performed, the date of diagnosis was the date of biopsy regardless of precedent cytological diagnosis.

Final diagnosis

In non-surgical cases, diagnosis at registration was the final diagnosis. In surgical cases, the final diagnosis was the diagnosis based on the surgical specimen collected and the date of the final diagnosis was the date of surgery.

Surgical nomenclature

Surgical nomenclature was defined according to the IASCL/IMIG consensus report. In this study, MCR was divided into two subgroups: R0-1 was defined as the absence of microscopic tumor cells at the surgical margin, while R1 was defined as microscopic residual tumor cells confirmed at the surgical margin. R2 resection was defined as completion of surgery with macroscopic residual disease. Because both partial pleurectomy (PP) and exploratory thoracotomy (ET) were indicated as incomplete surgery, they were merged into a PP/ET group.

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Assessments of survival and relapse

Overall survival (OS) was defined as the period from the date of diagnosis at registration to death. Progression-free survival (PFS), defined as the period from surgery to disease progression or death, was calculated in patients who underwent surgery with MCR. Relapse pattern was defined according to Kostron et al.

Enrollment and study periods

Patients were enrolled from April 1, 2017, to March 31, 2019. The study period was between April 1, 2017, and March 31, 2026.

Ethics Statement

④This study was approved by the institutional review board of Osaka University Hospital, where the registry office is located, on October 11, 2016 (approval number 16038). The registry and the study using the registered data were approved by each institutional review board of all participating institutions. Written informed consent was obtained from all study participants. This study was registered at the UMIN Clinical Trials Registry as UMIN 000024664. This study adhered to the ethical guidelines for epidemiologic studies published jointly by the Japan Ministry of Science, Culture, and Education and the Japan Ministry of Health, Labor, and Welfare on June 17, 2002, and revised on February 28, 2017.

Data collection and data analysis

The methods of data management have been previously described. Briefly, patient data were retrieved from the JJCLCR website using a USB drive with a coded institution-individual serial key. Data on survival were collected in April 2021.

Statistical analysis

Patients' characteristics were summarized with median, interquartile range (IQR) and range (minimum, maximum) for continuous variables and frequencies for categorical variables. For summary statistics, two-tailed 95% confidence intervals (CI) were presented. Survival functions were estimated using the Kaplan–Meier method and their 95% CIs were calculated by using the Greenwood variance with the complementary log–log transformation. Comparisons among multiple groups were made using the log-rank test, which is referred to as the omnibus test. For ordinal groups, the log-rank test with the linear scores attached was used, referred to as the trend test. Differences between survival functions were evaluated using the log-rank method. ⑤Statistical analyses were performed after excluding cases with missing values for relevant variables. No multiplicity adjustment was applied and a p-value of less than 0.05 was considered statistically significant. The SAS version 9.4 (SAS Institute, Cary, NC) and R version 4.1.2 were used for statistical analyses. To draw the graphs for the Kaplan–Meier estimates, the survminer package for R was used.

（出典：Cancer Science. 2024;115: 508-510. Open Access）

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設問１．下線部①の訳を書きなさい。

設問２．下線部②はどのようなことを言っているのか意訳しなさい。

設問３．（　③　）に入る適切な語句を下から選んでその記号を書きなさい。

ａ）　independent from　　ｂ）　in contrast to　　ｃ）　in accordance with　ｄ）　in front of

解　答　：　（　　）

設問４．下線部④はどのようなことを言っているのか意訳しなさい。

設問５．下線部⑤はどのようなことを言っているのか意訳しなさい。