POPULATION-BASED MULTICENTER SURVEY FOR THE QUALITY OF pTNM STAGING OF LUNG CANCER IN EHIME PREFECTURE, A JAPANESE SUB-NATIONAL JURISDICTION

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[Background] Our past report suggested that the pTNM may be misdiagnosed in many institutes due to insufficient knowledge (Teramoto, Pathol Int, 2009a), and that pTNM diagnoses of lung cancer were not actually accurate, especially in certain situations where the TNM regulations were poorly defined (Teramoto, Pathol Int, 2009b).
[Material and method] The 203 primary lung carcinoma (PLC) cases undergoing radical operation without pre-operative chemotherapy in the second half of the fiscal 2006 were collected from the pathology files of the 6 Local Cancer Core hospitals (LCCHs, referred to as A - F hospitals) in Ehime prefecture (EP). The original pTNM of each case was examined microscopically with the assessment of pathology files according to the UICC-TNM 6th and compared with re-classified pTNM. The cases comprised more than 90% of the operated PLCs in EP during the period. The pTNM at A hospital from 1999 to 2004 which had been assessed before this study (Teramoto, Pathol Int, 2009b) was also compared with the present data.
[Result] The average of complete concordance rate (CR) of pTNM between original pTNM and re-classified pTNM at each LCCH was 83.7% (170/203). The CR ranged from 97.1% (67/69, A hospital) to 67.9% (19/28, D hospital). Of 609 T, N and M components, 34 components (27 pT and 7 pN) were revised, and 31 cases including 3 cases with dual miscoding were re-staged to other stages at 8 group staging system with subdivision (8GSS). Excluding A hospital, the complete CR of pTNM fell from 83.7% to 76.9%

(103/134) and that of 8GSS from 84.7% (172/203) to 78.4% (105/134). The complete CR of pTNM at A hospital was significantly higher than the other hospitals except F (P<0.01, χ^2-test). However, the complete CR of pTNM at A hospital in 1999-2004 (84.2%, 187/222) significantly lower than that in 2006 (P<0.01, χ^2-test) and was not significantly higher than those at B, C, E, and F hospital.

[Discussion and conclusion]

This is the first report of a population-based survey for the quality of pTNM of a cancer site. The accuracy of pTNM at each hospital varied greatly according to the circumstances of the hospitals. Major causes of miscoding pTNM were the lack of knowledge about pTNM regulations, poor description of the TNM regulations and low motivation for pTNM classification of Japanese pathologists. In 2 LCCHs, pathology tumor size was not measured routinely. In D hospital, pTNM assigned by external medical laboratory was less accurate conceivably due to deformity of the specimens during transportation and to the difficulty to obtain exact clinical information. The improvement of the accuracy of pTNM at A hospital between 2006 and 1999-2004 indicated that the careful self-assessment would improve the pTNM quality. The quality of pTNM of a district would depend largely on the constituent ratio of the hospitals with various accuracy of pTNM, taking the example of EP: 97.1% - 67.9%. As for lung cancer, clear descriptions of the methods of sectioning a surgical specimen and measuring a tumor size will improve the quality of pTNM.