

Experience of prototype thin bronchoscope with rotary function of insertion portion for peripheral pulmonary lesions

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【Background and purpose】 Prototype thin bronchoscope (BF-Y0041), which was developed by Olympus medical systems, has a function that a insertion portion of bronchoscope can be rotated. Thanks to this function, Y0041 may be inserted more easily into the target bronchi compared with the conventional bronchoscope. We attempted to evaluate the utility of Y0041 for diagnosing peripheral pulmonary lesions.

【Methods】 We performed bronchoscopy to peripheral pulmonary lesions in 40 cases, using Y0041. The outcome measurements include the bronchus generations to which the bronchoscope was inserted, the number of rotation function usage, the examination time, and the diagnostic yield. As a historical control, we used 137 cases where bronchoscopy was performed, using a conventional thin bronchoscope (BF-P260F) from January 2009 to December 2010.

【Results】 The average size of lesions (median) was 22mm in Y0041 group, 27mm in P260F group($p = 0.009$). Y0041 could be inserted to the 4th generations of bronchi in 52.5% of the cases, while P260F was 67.2% of the cases ($p = 0.09$). Rotation function was used in 31/40 cases (78%), among which the lesion in the in left S1 +2 was the most frequent target site. Total examination time was 27 minutes on average in Y0041, while 26.3 minutes in P260F ($p = 0.78$). Diagnostic yield was 57.5% in Y0041, while 72.3% in P260F ($p = 0.08$). In the lesions whose diameter 20mm, diagnostic yield was 73.9% in Y0041 compared with 80.6% in P260F ($p = 0.56$).

【Conclusions】 There were no significant difference in the inserted bronchus generations of bronchi, the examination time and the diagnostic yield between Y0041 and P260F. Further experience would be warranted to determine the role of Y0041 as a diagnostic tool.