

Is mesothelioma associated with increased risk of indwelling pleural catheter-related septated pleural effusion?

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Introduction

Indwelling pleural catheters (IPC) are an increasingly attractive option for patients wishing to avoid hospitalisation as they reduce length of stay. However, non-draining IPC-related symptomatic loculation occurs in 8.4-13.5% of patients,[1] and requires further procedures to break down septations and drain fluid more freely.[2] Fibrin deposition facilitates autopleurodesis but can also induce septations and loculations within pleural fluid, impairing effective fluid drainage in patients with symptoms of accumulated fluid. Given the larger pleural tumour load and larger area of pleura involved with mesothelioma than with other MPEs,[3] mesothelioma may have an increased risk of fibrin deposition.

Aim

To assess whether mesothelioma is associated with increased rates of IPC-related non-draining symptomatic septated pleural effusion.

Method

IPC insertion records for MPE between 2008 and April 2017 were analysed retrospectively, and data collected from medical records, including whether prior intrapleural talc was administered or not (since talc may give rise to septated effusion). Fisher's exact test was used to compare the frequency of complicated septated effusions between patients with mesothelioma (mesothelioma MPEs) and those with other malignancies (non-mesothelioma MPEs). Non-draining symptomatic septated effusions were defined as pleural effusions identified to be septated on ultrasound, associated with shortness of breath and/or cough, and not draining adequately via the IPC.

Results

181 IPC insertion cases were analysed. Mean age at IPC insertion was 67.6 years (SD 13.9), 48% were female($n=87$). 38(21%) were mesothelioma MPEs and 143(79%) were non-mesothelioma MPEs; 3(7.9%) and 5(3.5%) developed IPC-related non-draining symptomatic septated effusions respectively ($p=0.4$). There was no significant difference in rates of IPC-related non-draining symptomatic septated effusions between patients who had received prior ipsilateral talc pleurodesis and those who had not: in mesothelioma MPEs ($p=1.0$), in non-mesothelioma MPEs ($p=1.0$).

Discussion

There was no statistically significant difference in rates of IPC-related symptomatic septated pleural effusion between patients with mesothelioma and non-mesothelioma MPE, although this data is limited by the retrospective study design and by relatively small numbers of non-draining IPC-related symptomatic septated pleural effusions.

References

1. Tremblay A, et al. Chest 2006;129(2): 362-368.
2. Thomas R, et al. Chest 2015;148(3): 746-751.
3. Fysh ETH, et al. Thorax 2013;68:594-596.

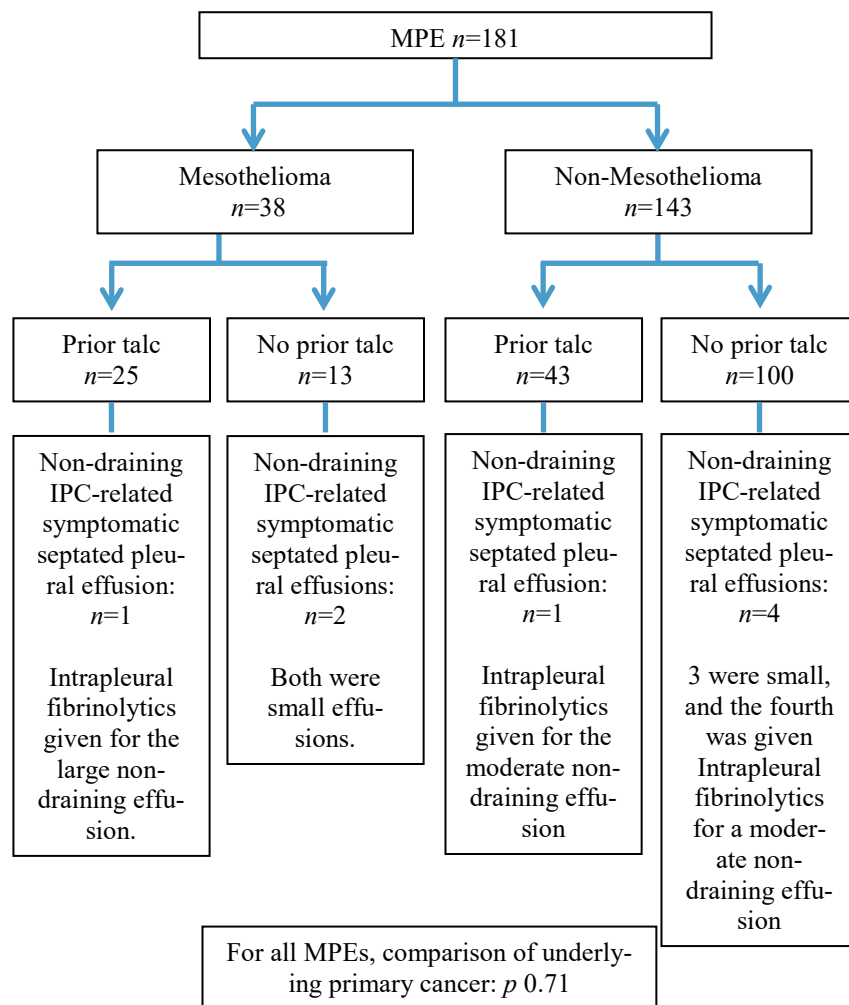


Figure 1 compares the rates of non-draining IPC-related symptomatic septated pleural effusions between patients who had prior talc pleurodesis attempt and those who did not, between patients with mesothelioma and non-mesothelioma malignant pleural effusions.

MPE=malignant pleural effusion; IPC=indwelling pleural catheter