Palliative Medicine Doctors Meeting

Chemical Pleurodesis in Palliative Care patients - Our experience

Dr BF Chow, Dr PC Li, Dr KS Lau
Ruttonjee Hospital

Introduction

Malignant pleural effusion (MPE) is a common cause of morbidity in cancer patients in advanced disease. Carcinoma of lung and breast accounts for the majority (75%) of MPE. The median survival following diagnosis was 3 to 12 months, largely dependent upon the underlying malignancy. Patients may present with dyspnoea, cough or chest pain which compromised their quality of life. Chemotherapy and radiotherapy may be effective means of palliation in patients with lymphoma, small cell lung carcinoma and breast carcinoma. Majority of patients with MPE need local intervention for symptomatic control; either in terms of repeated thoracocentesis, tube thoracostomy alone or tube thoracostomy with sclerosing agents. Pleuroperitoneal shunt or pleural abrasion and pleurectomy are rarely performed in our locality. Success rates varied with different modalities employed. The indications of tube thoracostomy and pleurodesis would take into consideration patients' expected life expectancy, co-morbidity and general health status. Successful sclerotherapy probably depends on the choice of sclerosing agents, tube size, amount of pleural fluid and tumour burden. At present, there is still no universal consensus as to the best and most effective treatment procotol.

Aim

To review our experience with tube thoracostomy with and without chemical pleurodesis in the management of symptomatic MPE with regards to efficacy, side effects and recurrence rates.

Methods

Retrospective case note review of 53 cancer patients who were managed with tube thoracostomy for symptomatic malignant pleural effusions. The study interval spanned a period of 4 years since January 1997.

Results

Thirty three (62%) male patients and twenty (38%) female patients were studied. Their mean age was 70.8 years. Majority (92%) was ambulatory. 4 patients (8%) was moribund in terms of assistance needed in activities of daily living, they had chest drain inserted upon referral to our palliative care unit. The pleural fluid was straw coloured in 56%, blood stained in 40% and pus like in 4%. The mean drainage volume was 2581ml (range: 50-9930ml) and the mean duration of drainage was 7.81 days (range: 1-29 days). Overall symptomatic improvement was shown in 86% of patients [either in terms of less shortness of breath (82%), improved sleep quality (6%) or improved general condition(6%)]. 6% of patients reported feeling the same and 8% got worse after drainage. Forty four patients (44/53; 83%) had chemical pleurodesis done, while nine (9/53; 17%) without after tube thoracostomy either because of trapped lung or tube blockage.

Tetracycline was used in 65 % and minocycline in 35% of patients. Only one patient developed fever after pleurodesis and subsided spontaneously after one day. Five patients (11.4%) had relapse of pleural effusions. All relapses occurred more than one month after pleurodesis and two (4.5%) necessitated repeated pleurodesis. Twenty nine (29/44 66%) patients survived 4 weeks to 9 months after pleurodesis.

Literature Review

The high rate of re-accumulation of pleural fluid after simple aspiration for MPE had provided the rationale for chemical pleurodesis. Martinez et al[1] in a study of 120 cases had identified several poor response indicators to chemical pleurodesis (pleural fluid glucose < 3.3, pH < 7.20, LDH > 600iu/L; low KPS score < 70, massive pleural effusions and non-chemosensitive tumours). In another study, Burrows et al[2] showed that only the KPS score at the time of thoracoscopy was predictive of survival. For patients with a KPS score = 70, it may be very reasonable to proceed with thoracoscopic talc pleurodesis. Parulekar et al[3] had found that use of small bore catheters (12F) had similar rate of recurrence of pleural effusions as large bore chest tubes. In striking the balance between symptomatic improvement and providing the best quality of life to patient with MPE, Saffron et al[4] had postulated out patient pleurodesis using small-bore (14F) pigtail catheter and Pien et al[5] use implantable catheter for trapped lung syndrome.

Conclusions

In our experience, tube thoracostomy and chemical pleurodesis resulted in symptomatic relief in majority of patients. Significant numbers enjoyed symptom reduction for weeks/months before death. The performance status and the survival expectancy would affect the choice of treatment modality.

Our study has limitation as it is retrospective, service-based rather than research-based with limited pleural investigation results.

Concerning the future direction, small catheter drainage and out-patient pleurodesis would need further exploration.

References

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