Characteristics of medically and surgically treated empyema patients: a retrospective cohort study

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Background: The role of drainage, intrapleural fibrinolytics, and/or surgery in the management of thoracic empyema is controversial. Objectives: We aimed to investigate the operational practice of empyema management at our hospital. Methods: Between January 2001 and December 2008, all patients with thoracic empyema were retrieved. After exclusion of patients with malignant effusion, traumatic or iatrogenic empyema, and a history of pleurodesis or tuberculosis, we compared the characteristics of medically versus surgically treated empyema patients. Results: Seventy-eight of 215 retrieved patients were acute bacterial empyema cases. All received intravenous antibiotics. Fifty-eight (74.4%) initially received tube thoracostomy, 34 (43.6%) were treated with intrapleural urokinase, and 30 (38.5%) were operated on. Of 20 patients without initial tube thoracostomy, 15 (75%) were operated on, compared to 9 (37.5%) who were initially treated by tube thoracostomy without intrapleural fibrinolytics (OR 5; 95% CI 1.4-18.5, p = 0.01) and 6 (17.7%) who were initially treated with tube thoracostomy and intrapleural urokinase (OR 14; 95% CI 3.6-53.6, p < 0.001). The surgery patients were not different in demographic and clinical characteristics but were more likely to describe significant chest pain 12 months after discharge. Conclusions: In this retrospective cohort study of thoracic empyema patients, initial chest tube insertion and intrapleural fibrinolytics were associated with less surgical therapy. Other predictors of the need for surgery could not be identified. Surgery patients were more likely to suffer from residual chest pain 12 months after discharge. Initial treatment with IV antibiotics, chest tube, and intrapleural fibrinolytics was successful in the majority of patients.