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PILOTing towards a RAPID predictor of mortality for infectious pleural effusions

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Depending on the imaging modality used, between 19% (with chest radiographs) [1] and 54% (with ultrasound) [2] of patients with community-acquired pneumonia have an accompanying pleural effusion. Most previous studies on parapneumonic effusions have focused on the necessity of fluid drainage [3, 4], with less attention being paid to the prognostic aspects. However, pleural infection (a term indistinctly used for parapneumonic effusions and empyemas) remains a serious condition associated with significant healthcare resource utilisation that portends a non-negligible mortality. In a large Danish registry of 6878 hospitalised patients with empyema the crude 30-day mortality was about 10%, though it ranged from 1.2% in those younger than 40 years to 20.2% in those aged ⩾80 years [5]. Supportively, in two large series of patients with pleural infections, the reported 30-day mortality rate was roughly 14% [6, 7]. Generally, figures for long-term prognosis are worse, with an observed 3-month and 1-year mortality of 23% and 42%, respectively, in an Australian series of 561 adults with culture-positive pleural infections, two-thirds of which were hospital-acquired [8]. Moreover, a recent systematic review totalling 227 898 patients with pleural infections found the median prevalence of pre-existing comorbidities (mainly respiratory and cardiac diseases) to be as high as 72%, while the median length of hospital stay was 19 days [9].

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