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Journal club

Revisiting intrapleural fibrinolysis in empyema

In this double-blind, double-dummy, factorial trial performed across 11 centres in the UK, tissue plasminogen activator (t-PA) was used in combination with DNase in the treatment of pleural infection and compared with double placebo. Each treatment individually was also compared with the placebo group.

The primary end point measured the percentage change in area of pleural opacity seen on chest x-ray between day 1 and day 7. The study also used the relative change in opacity, proportions of patients referred for surgery at 3 and 12 months, duration of hospital stay, pleural fluid volume drained, change in inflammatory markers, death and any adverse events as additional end points.

The combination of t-PA and DNase led to a significant reduction in lung opacity compared with placebos. Use of either t-PA or DNase alone had no significant effect. Of the secondary end points, a significant reduction in referral for surgery and hospital stay was found in the combined t-PA–DNase groups compared with placebo. However, inflammatory markers and the chance of death or adverse event were not significantly reduced in any group compared with placebo.

The findings of this trial show that a combination of t-PA and DNase significantly increases the drainage of pleural fluid in those with pleural infection while also reducing the need for surgical referral and the length of hospital stay. However, further research is needed into the risks and benefits of treatment before this combination becomes the standard treatment in the management of these patients.

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