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| **Alteplase dose assessment for pleural infection therapy (ADAPT) study-3: A starting intrapleural dose of 1mg alteplase** |
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| **Introduction/Aim:** Intrapleural tissue plasminogen activator/deoxyribonuclease (tPA/DNase) therapy has revolutionised management of pleural infection. The current use of tPA/DNase varies worldwide due to concerns of bleeding risks and costs associated with the empirical dose of 10mg tPA employed in a randomised trial. Our ADAPT dose de-escalation series aims to establish the lowest effective dose of tPA. This study assesses the use of intrapleural 1mg tPA/5mg DNase for pleural infection.    **Methods:** Consecutive patients with pleural infection treated with a starting dose of 1mg tPA/5mg DNase were included from two centres in Western Australia. Dose-escalation of tPA was permitted at any time.  **Results:** 74 patients (31.1% female, mean age 60.7 years) received intrapleural 1mg tPA/5mg DNase. 86.5% of patients were treated successfully and survived to hospital discharge without requiring surgery within 90 days following the initial dose of tPA/DNase. Patients received a median of 3 [IQR 2-5] doses of tPA/DNase and a total of 3mg [median, IQR 2-5] of tPA per patient. Twenty-two patients required dose-escalation of tPA; most (n=18) for attempted drainage of non-communicating locule(s). Treatment success was corroborated by improvement in pleural opacities on radiographs (from median 23.0% [IQR 11.6-31.4] to 15.0% [IQR 11.0-23.2] of hemithorax, p<0.05), increased pleural fluid drainage (up to 1808mL [median, IQR 1229-2404] over 72hrs, p<0.0001) and reduction of serum C-reactive protein level (by 55.1% [median, IQR 38.5-71.3] from baseline at day 5, p<0.0001). Two patients required surgery. Five patients with ongoing pleural infection were palliated and died from advanced cancer. Two patients experienced self-limiting pleural bleed, one of which received blood transfusion.  **Conclusion:** A starting dose of 1mg tPA/5mg DNase may be safe and effective for the treatment of pleural infection, especially in patients with high bleeding risks.    **Grant Support:** N/A |