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| **Intrapleural fibrinolytic therapy for pleural infection: Real world experience at the Sunshine Coast University Hospital** |
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| **Introduction/Aim:** Pleural infection remains a significant cause of morbidity, mortality, and prolonged hospital stay1. Intrapleural therapy with tissue plasminogen activator (tPA) and DNAse improves drainage, length of hospitalisation and need for surgery2. We retrospectively evaluated the outcomes of patients on varying dosing schedules (standard MIST II2 and non-standard dosing) of tPA/DNAse at the Sunshine Coast University Hospital.**Methods:** A retrospective review was performed on patients with pleural infection receiving intrapleural tPA/DNAse between 2018 and 2023, identified through dispensing records. The proportion receiving a standard regimen (10mg tPA/5mg DNAse 12hourly for 6 doses) compared to a non-standard regimen was noted. Outcomes included length of hospitalisation, mortality, rates of surgery and complications.**Results:** Of 53 patients, 73.6% were male and the mean age was 57.9. 19 patients (35.9%) received a standard regimen; 34 (64.2%) received a truncated regimen/ reduced dose of tPA (mean cumulative dose 25.3±18.5mg tPA/ 13.6±8.9mg DNAse) mainly due to complications (38.2%) or clinical improvement (38.2%). Mean RAPID score was similar between groups; 3.4 (standard) and 3.7 (non-standard). 50.9% had positive pleural fluid culture including Streptococcus intermedius (66.7%) and Staphylococcus aureus (11.1%). Overall length of hospitalisation was 14.3 days without a significant difference between groups (13.7 vs 14.6 days, p value = 0.39). Overall complications included one death at 90 days, pain (18, 34%), concern for air leak (8, 15.1%) and pleural bleeding (3, 5.7%). 13 (24.5%) patients required surgery, 10 of these received a truncated course due to complications (6), loss of chest drain (3) and treatment failure (1). **Conclusion:** Use of intrapleural tPA/DNAse was efficacious in treatment of pleural infection. Rates of surgical referral appeared higher than in published literature2 (likely due to institution factor associated selection bias). Patients treated with an altered regimen due to complications were more likely to require surgery. A high prevalence of streptococcus intermedius was observed. **Reference:**1. Mehta et al, Respiration, 2016, 91(2):101-6
2. Rahman et al, New England Journal of Medicine, 2011, 365(6):518-26

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