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| **Endobronchial valves for persistent air leak in secondary pneumothorax:**  **the western Australian experience** |
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| **Introduction/Aim:** Secondary pneumothorax (SP) is often complicated by persistent air leak (PAL), prolonged hospitalization, significant morbidity, mortality and health costs. Endobronchial valve (EBV) is a new therapy for PAL. This retrospective review documents the collective experience of EBV use for PAL in two tertiary interventional pulmonology units in Western Australia.  **Methods:** Consecutive patients admitted with secondary pneumothorax from 01/Jan/2017 to 05/Oct/2023 who underwent EBV placement for PAL were identified from hospital databases of SCGH and FSH and their clinical information retrieved.  **Results:** 29 patients (83%=male; median age=73) with secondary pneumothorax (69% spontaneous) were treated with EBVs for PAL; 90% had smoked and 55% had COPD. Their total length-of-stay was 21 [IQR=14-35] days.  Seventeen patients only had chest tube drainage before EBV but 8 had attempted/failed blood patch, 6 had talc slurry pleurodesis and 1 had unsuccessful VATS prior. The median hospitalized days prior to EBV placement was 8 [IQR 5-13] days.  EBV was successful in 79% of cases in stopping the PAL within 7 days [median, IQR=3.5-11.5] while 3 died as inpatient and 3 required further EBV placements. One patient coughed up the valve. A median of 3 EBVs [IQR=2-4] were required per patient; 55% of patients had EBVs placed in the right upper, followed by left upper and left lower lobes. Median time to discharge post-EBV placement was 10 [IQR=6-21] days. EBVs were removed in 20% of patients after 4 months [IQR=2-5].  Nineteen patients have died at time of audit, none from EBV-related causes. Three were lost to follow-up. Fourteen patients had completed 6-month follow-up and 1 had recurrence of pneumothorax.  **Conclusion:** EBV is a promising treatment for PAL from secondary pneumothorax, with low recurrence and complication rates. Randomized trials (RCTs) to define its benefits are necessary. |