2023 Annual Research Day Poster Sessions – April 19th, 2023

Session/Poster#	Presenter
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Use Of Intrathoracic Tissue Flaps For Repair Of Airway Fistulas: A Systematic Review

Purpose: Airway fistulas are challenging surgical problems that can be managed with a spectrum of invasive procedures ranging from local muscle flaps to regional flaps to free tissue transfer. The present study investigates the outcomes of patients who underwent local versus regional flaps to repair airway fistulas in the thorax. Methods: A systematic review was performed using Embase, Medline, Scopus, and WebOfScience utilizing PRISMA guidelines. 2243 articles were collected, screened, and reviewed. Ten articles, comprising 119 patients in seven countries, met inclusion criteria and were included in the analysis. Flaps were grouped based on extent of mobilization of flap harvest. Intercostal, serratus anterior, and latissimus dorsi muscle flaps were considered local flaps, while trapezius, pectus, rectus abdominis, and omentum were considered regional flaps. Results: There was no difference in number of co-morbidities per patient between those that underwent local flaps or regional flaps (2.40 - 0.59 vs 2.72 - 1.42). The overall complication rate was higher when more regional flaps were utilized (10.42% - 13.07% vs 18.25% - 18.30%) and had higher variance (1.33% vs 4.36%). While the average 30-day mortality was equal (2.15% - 2.13% vs 2.22% - 4.36%), the variance was similarly greater in the more regional group (0.02% vs 0.20%). This variance may be due to the more precarious nature of flaps higher on the reconstructive ladder. Conclusion: Flap selection for reconstruction of airway fistulas is of paramount importance since these patients often have multiple co-morbidities. There is scant literature on the use of local and regional tissue flaps for repair of airway defects and thus this abstract seeks to come to a consensus on their use. Local flaps appear to deliver more consistently successful reconstruction of airway fistulas compared to regional flaps.