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Management of Primary Spontaneous Pneumothorax: A Single Institution Protocol Analysis

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Management of Primary Spontaneous Pneumothorax in Children: A Single Institution Protocol Analysis

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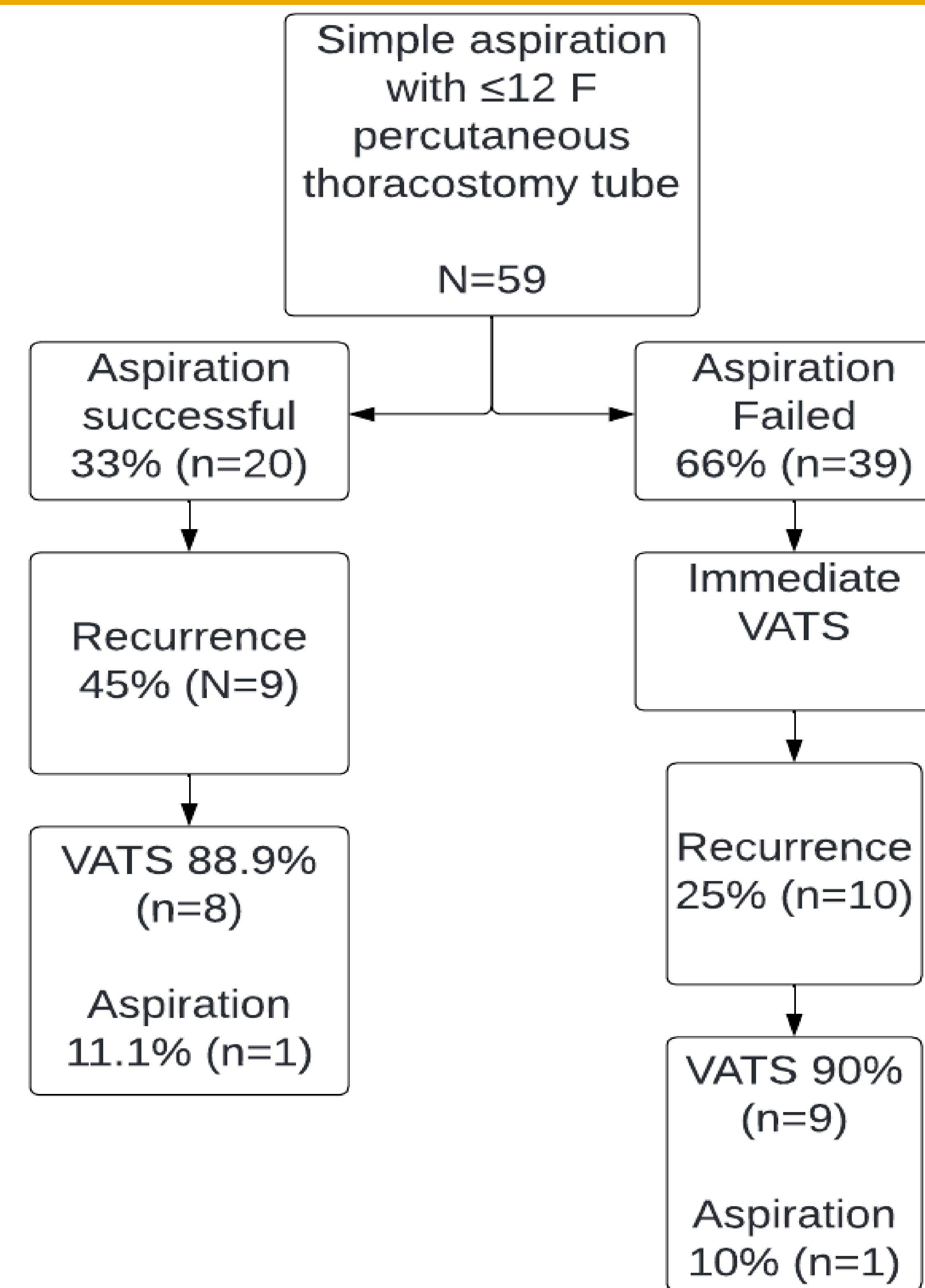
Introduction

- Management of primary spontaneous pneumothorax in children varies by institution
- Prolonged hospital length of stay (LOS) and morbidity are common with chest tube management
- Hypothesis: once simple aspiration fails and early surgical intervention is undertaken, there would be a significant reduction in LOS and morbidity will be reduced.

Methods

- Retrospective analysis on patients <18 years who were diagnosed with PSP from 2016 to 2021
- Per protocol initial management was aspiration with a ≤ 12 F percutaneous thoracostomy tube followed by clamping of the tube and CXR at 6 hours.
- Success was defined as ≤ 2 cm distance between chest wall and lung at the apex and no air leak when the clamp was released. VATS followed if aspiration failed.

Results



- Fifty-nine patients included. Median age was 16.8 years (IQR 15.9, 17.3).
- Aspiration successful in 33% (n=20), while 66% (n=39) required VATS.
- Median LOS with successful aspiration = 20.4 hours (IQR 16.8, 34.8)
- VATS group had a median LOS of 3.1 days (IQR 2.6, 4).
- Compared to two recent publications where LOS post VATS was median 5.5 days (IQR 5, 7) and a mean of 3.7 days ± 1.4 [1,2].
- Median time to recurrence after successful aspiration was sooner than that of the VATS group [16.6 days (IQR 5.4, 19.2) vs. 389.5 days (IQR 94.1, 907.0) p=0.01]

Conclusion

- Simple aspiration reliably predicts the need for operative intervention
- The decision to operate may be made within 6 hours; likely reducing LOS, morbidity and cost
- *The authors have no financial relationships to disclose

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