

S131 AMBULATORY MANAGEMENT OF SECONDARY SPONTANEOUS PNEUMOTHORAX

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Introduction and Aim Management of spontaneous pneumothorax is predominantly inpatient based despite availability of devices which facilitate ambulatory management. At our institution most patients meeting predefined criteria have outpatient management. We aimed to assess the effectiveness of ambulatory management of SSP.

Methods Data on all secondary spontaneous pneumothorax patients presenting to the emergency department between September 2014 and June 2017 was prospectively recorded. Patients were initially managed by the emergency department practitioners, usually with insertion of a Rocket seldinger (size 12 F) chest drain. They were then referred to the respiratory team at the earliest opportunity. Patients meeting eligibility criteria (age 16–80, WHO performance status 0–1 and no co-existing condition requiring admission) had their underwater seal replaced with a Pneumostat valve (Atrium Medical Corporation) which was connected to their chest drain. They were then discharged from hospital with reviews on alternate days on the ambulatory care unit. Chest drains were removed once air leakage had stopped for 24 hours. Suction was not employed. Patients with a persistent air leak were referred to the thoracic surgeons on day five and were admitted electively from home for surgery with chest drains *in-situ*.

Abstract S131 Table 1

	Ambulatory Cohort	Non-ambulatory Cohort
Total number of patients	49	50
No. requiring Chest drainage	44	47
Mean Age	60 (21–76)	70 (30–92)
Sex (M:F)	26:23	38:12
Size of pneumothorax (Large:Small)	40:9	32:18
No. resolved by day 5	29/49 (59%)	32/50 (64%)
No. requiring surgery due to non-resolution	9	4
Mean length of drainage (days)	5.57	7.96
Mean length of out-patient (OP) drainage	4.77 (out of 5.57)	NA
Mean Number of OP reviews	2.08	NA
Total number of complications	6	15
Mean pain score (scale 0–10)	3.65	NA
Mean Satisfaction score (scale 0–5)	4.95	NA

Results Data on all 99 consecutive patients with spontaneous pneumothorax were collected prospectively. Patient characteristics and outcomes are shown in Table 1. 55 episodes qualified for ambulatory management of which 49 SSP had outpatient management. The six patients who were not treated on the ambulatory pathway had resolution of pneumothorax by day 2. Of the 49 SSP who had ambulatory treatment, nine (18.37%) required surgery due to non-resolution whilst 11 achieved resolution between 6 and 19 days. There were a total of six complications during ambulatory management.

Three patients experienced drain blockage which necessitated replacement of the tube. Two patients developed empyema; one of these was following prolonged drainage (19 days) as he declined surgery. One patient's drain fell out but did not require reinsertion as the pneumothorax had already healed.

Conclusion This study confirms that the use of chest drains with one-way valves in the ambulatory management of selected secondary spontaneous pneumothoraces is safe with few complications.

S132 CONSERVATIVE MANAGEMENT IN TRAUMATIC PNEUMOTHORACES: AN OBSERVATIONAL STUDY

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Background Traumatic pneumothoraces are a common consequence of major trauma. Despite this, there is a paucity of literature regarding their optimal management, including the role of conservative treatment. The aim of this study was to assess the treatment, complications and outcomes of traumatic pneumothoraces in patients presenting to a Major Trauma Centre.

Methods The prospectively collected Trauma Audit :

and Research Network (TARN) database was used to identify all patients presenting with traumatic pneumothoraces to a UK Major Trauma Centre from April 2012 to December 2016. Demographics, mechanism of injury, injury severity score (ISS), management and outcomes were analysed.

Results 602 patients were included in study period. Mean age 48 (SD 22) with 73% male. Mean ISS was 26 and inpatient mortality 9%. Of the 602 traumatic pneumothoraces, 277/602 (46%) were initially treated conservatively. 252/277 (90%) of this cohort did not require subsequent chest tube insertion, including the majority, 56/62 (90%), of patients on admission positive pressure ventilation (PPV). Hazard ratio for failure of conservative management showed no difference between the ventilated and non-ventilated patients (HR 1.1 p 0.84). Only the presence of large hemothorax was associated with increased likelihood of failure of conservative management.

Conclusions In the largest observational study of traumatic pneumothoraces published to date, over 90% of patients whose pneumothorax was managed conservatively never required subsequent tube drainage. Importantly, this also applies to patients requiring PPV, with no significant increased risk of failure of expectant management. This data supports a role for conservative management in traumatic pneumothoraces.

Core outcomes for mechanical ventilation

S133 A CORE OUTCOME SET FOR MECHANICAL VENTILATION TRIALS: THE COVENT STUDY

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