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VIDEO-ASSISTED THORACOSCOPIC SURGERY IN TRAUMA: A LEVEL 1 TRAUMA CENTRE RETROSPECTIVE ANALYSIS

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INTRODUCTION

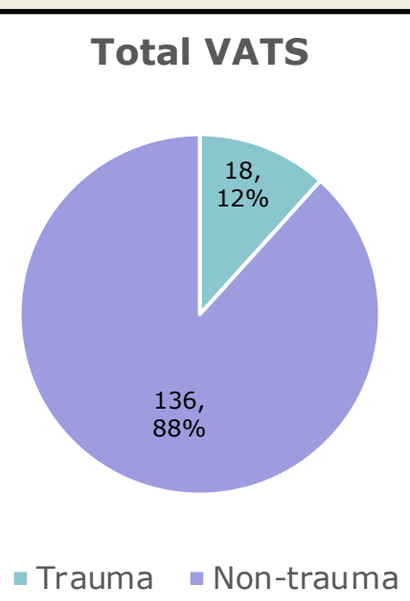
Thoracic injury encompasses 25% of trauma cases worldwide, ranking as the third leading cause of polytrauma mortality. Video-assisted thoracoscopic surgery (VATS) has emerged as an effective modality to manage thoracic trauma in both acute and chronic settings. This study aims to analyse the outcomes and efficacy of VATS in these patients.

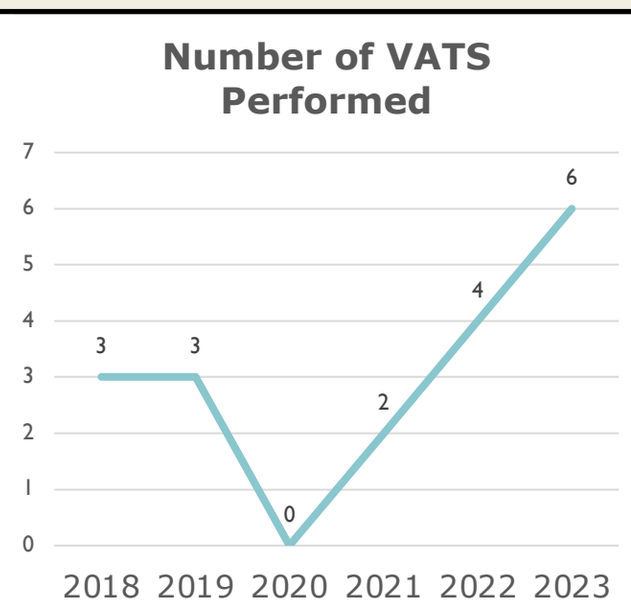
MATERIALS & METHODS

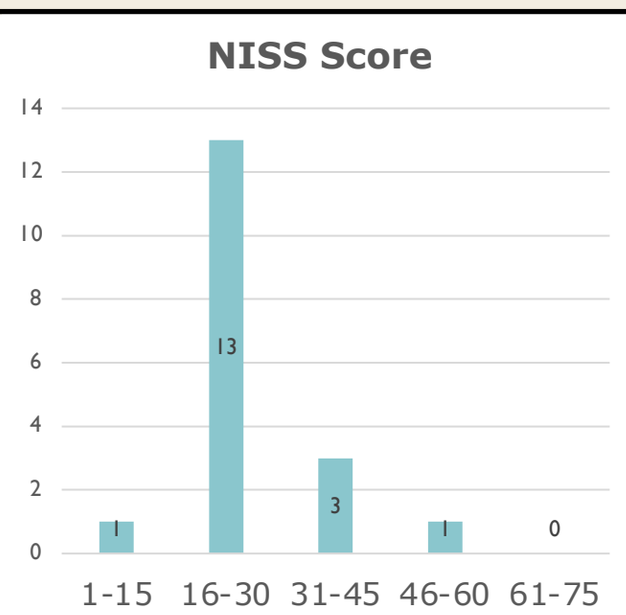
A retrospective analysis was conducted on thoracic trauma patients who underwent VATS between 2018 and 2023 at a Level 1 trauma centre. Individual medical records were reviewed according to injury types, New Injury Severity Score (NISS), Trauma Score and Injury Severity Score (TRISS), procedure performed and post-operative outcomes.

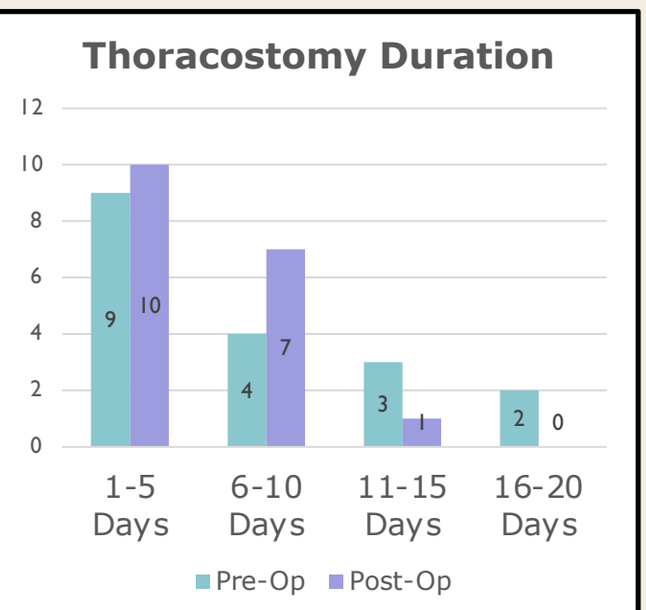
RESULTS

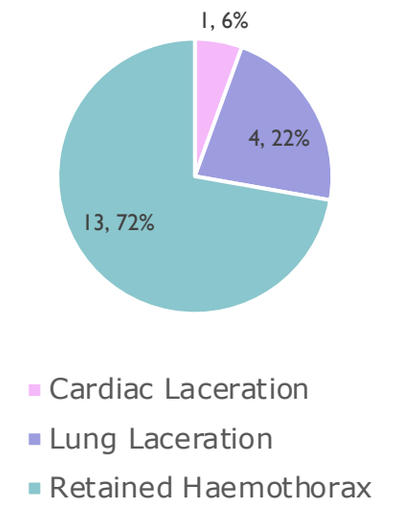
18 trauma patients successfully underwent VATS without conversion to thoracotomy throughout the study period. The cohort had a mean age of 43.1 years (range 19 to 78), with majority experiencing blunt trauma (88.9%) secondary to motor vehicle accidents (66.7%). 17 patients (94.4%) sustained major trauma (NISS ≥ 15, range 10 to 50) with a mean NISS of 28.3. Rib fractures, haemo-/pneumo-thorax and pulmonary contusions were the predominant injuries, while 14 patients (77.8%) sustained polytrauma with concomitant extra-thoracic injuries. Indications for VATS included retained haemothorax (13 patients, 72.2%), lung lacerations (4 patients, 22.2%) and cardiac laceration (1 patient, 5.6%). These patients required a mean post-operative thoracostomy drainage of 5.6 days (range 2 to 14), a mean post-op ICU admission of 8.4 days (range 0 to 36) and a mean total post-operative stay of 19.9 days (range 2 to 82). 16 patients (88.9%) were discharged alive while two patients succumbed to their injuries, corresponding to a mean TRISS survivability of 83.3% (range 23.2 to 99.3).

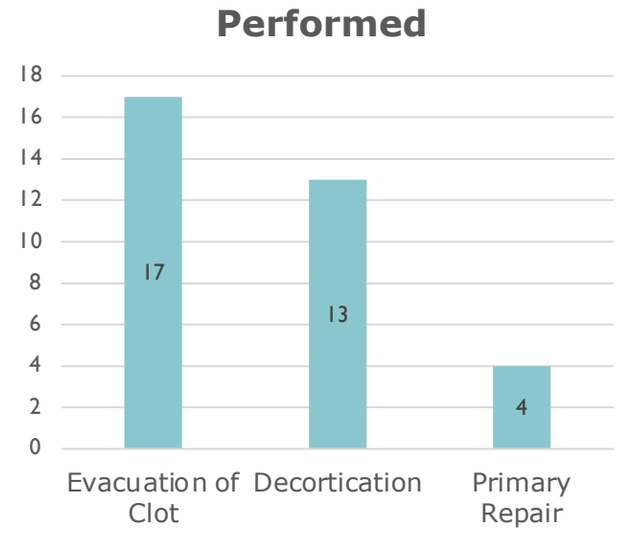


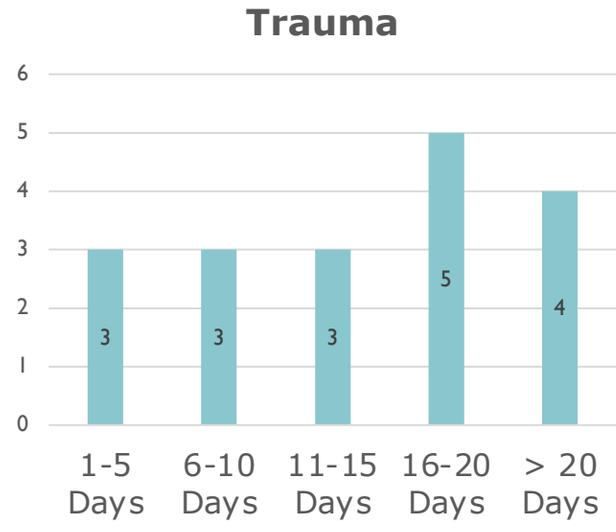


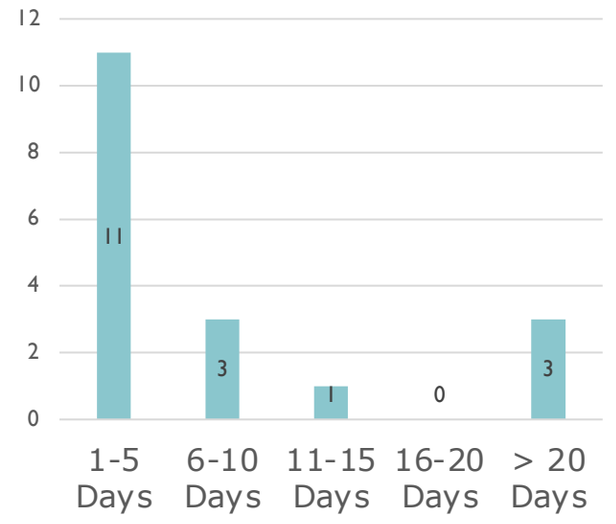












DISCUSSION

Although majority of thoracic injuries are managed conservatively, some patients may develop complications necessitating further surgical management. VATS offer a minimally invasive method to directly assess and manage intra-thoracic injuries. This technique provides several advantages over conventional thoracotomy including decreased post-operative pain, shorter post-operative thoracostomy drainage and reduced hospital stays. Recent studies advocate the use of VATS in trauma patients, particularly during the acute setting or within first 5 days of trauma to prevent complications from retained haemothoraces, empyema and persistent air leaks. The findings of this study contribute to the growing literature supporting the use of VATS in thoracic trauma.

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