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374 Thoracotomy vs Video-assisted Thoracoscopic Surgery in the Treatment of Vascular Rings

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Aim: This review aims to investigate the procedure itself, post-operative complication rates and long-term outcomes of both VATS procedures and thoracotomy procedures in the treatment of VRs.

Method: A literature search of the MEDLINE and SCOPUS databases were performed at the projects inception to present. From the 361 articles retrieved, 271 were excluded. After applying the exclusion criteria and thorough manual screening, 14 studies were included in the review. 6 of these studies investigated the outcomes using thoracotomy, 3 case reports plus 2 studies that investigated the outcomes using VATS and 3 studies that directly compared the two procedures. All 11 studies were retrospectively performed with 4 studies collecting data for over 20 years, 2 studies over 10 years and the remaining studies collected data for 2–8 years.

Results: Overall, 590 cases in this review focused on using thoracotomy operations and 190 cases used VATS. The main themes from the results of the literature included: type of vascular ring identified, case and collection period of the studies, the surgical approach, post-operative complications, length of stay in hospital, symptom resolution, reoperation rates and mortality. In this review, VATS demonstrated reduced length of stay in hospital, lower reoperation rates and a lower mortality rate than the thoracotomy studies. The results indicated similar rates in operating time and rates of post-operative complications between the two procedures.

Conclusions: This review provides insight into the encouraging outcomes in the use of VATS compared to the thoracotomy cases which is the gold standard approach in vascular ring surgery.