



This systematic review of CVC-related arterial injury aims to compare outcomes reported with different management strategies” Dixon et al (2016).

Abstract:

INTRODUCTION: Central venous catheterisation (CVC) is a technique commonly used to obtain vascular access and over five million CVCs are inserted annually. This systematic review of CVC-related arterial injury aims to compare outcomes reported with different management strategies.

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METHODS: PRISMA guidelines were followed. A search of Medline, Embase, Central and CINAHL was performed. Results were limited to papers in humans and in English with duplicates removed. Details of cases including site and nature of arterial injury, use of ultrasound, methods for identifying arterial placement, management methods used, and any reported outcomes were collated from all papers. Successful management was defined as control of haemorrhage without evidence of further complications.

RESULTS: We screened 2187 abstracts and 78 full manuscripts were obtained and reviewed.

Twenty-four papers were of relevance and were included in this review. Amongst the papers, 80 cases of arterial injury were reported. Successful treatment by removal and compression, endovascular methods, and open surgical repair were 5.6%, 94.6% and 100%, respectively.

**DISCUSSION:** Removal and compression of the arterial site is a poor management method and is associated with a high rate of complications. Endovascular approaches had a high rate of success with advantages of endovascular techniques including access to arteries which are difficult to expose surgically and avoidance of general anaesthesia. Endovascular repair might be considered depending on site of injury or local expertise though surgical repair reported the best results in this review with no complications seen.

Reference:

Dixon, O.G., Smith, G.E., Carradice, D. and Chetter, I.C. (2016) A systematic review of management of inadvertent arterial injury during central venous catheterisation. The Journal of Vascular Access. October 22nd. .

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