To evaluate the safety and clinical efficacy of interventional treatment for arterial injury during blind, central venous catheterisation in the upper thorax at two tertiary medical centres” Park et al (2019).

Abstract:

AIM: To evaluate the safety and clinical efficacy of interventional treatment for arterial injury during blind, central venous catheterisation in the upper thorax at two tertiary medical centres.

MATERIALS AND METHODS: Eighteen consecutive patients (37-81 years; M:F=8:10) who underwent interventional treatment for the arterial injuries that occurred during central venous catheterisation without any imaging guidance between November 2007 and December 2018 were included. Clinical data, angiographic findings, detailed interventional procedures, and technical and clinical outcomes were analysed retrospectively.

RESULTS: Arterial injury sites were the subclavian artery/branches (n=12), axillary artery/branches (n=2), and common carotid artery (n=4). The target vein was not correlated with the corresponding artery/branches in eight patients (44.4%); internal jugular vein to subclavian artery branches. Angiographic findings were pseudoaneurysm (66.7%, 12/18), contrast medium extravasation (22.2%, 4/18), or both (11.1%, n=2). A stent graft was inserted for the main trunk injuries in nine patients, with (n=2) or without (n=7) prior arterial branch embolisation to prevent potential endoleak, while embolisation for the arterial branch injuries was performed in nine patients. Direct percutaneous access with thrombin injection to the pseudoaneurysm or residual arteriovenous fistula was utilised in two. The technical and clinical success rate was 94.4% (17/18) each. There were no procedure-related complications. In one patient without immediate clinical success, there was a persistent pseudoaneurysm after stent graft placement, which was treated with instent balloon dilation.

CONCLUSION: Interventional treatment serves as a safe and effective treatment modality for inadvertent arterial injury related to blind, central venous access catheterisation in the upper thorax.
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