Ultrasound guided cervicothoracic (stellate) ganglion and infraclavicular block as an upper limb salvaging and pain management technique

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Background and Aims

- Acute upper limb ischaemia (AULI) is a condition which requires urgent therapy for limb salvage. The acute on chronic neuropathic as well as ischaemic pain associated with it can be very difficult to control.
- Sympathetic blocks have been found to be useful for various acute vascular ischaemic conditions.
- This case report describes the successful use of ultrasound guided cervicothoracic (stellate) ganglion block to salvage an acutely ischaemic hand.

Methods

- A 72-year female presented with right brachial artery thrombosis and critical ischaemia of the right hand.
- Her comorbidities included lymphoma, severe pulmonary hypertension, pulmonary fibrosis, rheumatoid arthritis and Sjogren's syndrome.
- She was being managed with epoprostenol and heparin infusions which did not result in any clinical improvement.

Results

- We performed an ultrasound guided cervicothoracic ganglion block (SGB) (Fig.1) followed by an infraclavicular block(ICB) with catheter insertion (Fig.2) to prolong the sympathectomy effect and analgesia to manage the ischaemic upper limb pain.
- We administered 8ml of 0.1% levobupivacaine with 3.8mg dexamethasone for the SGB and 30ml of 0.125% levobupivacaine with 3.8mg dexamethasone for the ICB.

Fig 1. Ultrasound guided stellate ganglion block

Fig 2. Ultrasound guided infraclavicular block

- The catheter was tunnelled and a continuous low dose infusion of levobupivacaine was started.
- Immediately following the procedure, the patient's pain score went down from 8/10 to 0/10.
- In the next few hours the patient's hand perfusion improved, and she was able to move her fingers.
- The planned amputation of her hand was abandoned, and she was discharged from the care of the vascular surgeons after 2 weeks with very minimal damage to 2 finger tips.

Conclusions

This case illustrates the potential role of ultrasound-guided cervicothoracic (stellate) ganglion block on AULI refractory to standard therapy.