Stellate Ganglion Block for Sympathetically Mediated Chest Pain in a Patient With Vasospastic Angina

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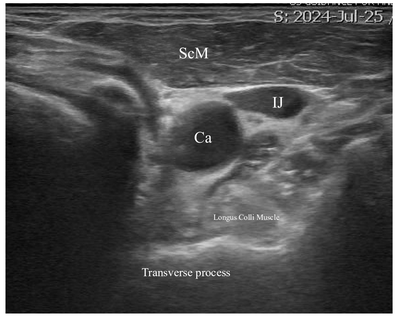
Introduction

- Stellate ganglion blocks (SGBs) are regional sympathetic blocks used to interrupt sympathetic efferent signaling to the head, neck, upper extremity, and thorax
- Clinical applications include complex regional pain syndrome, neuropathic pain, and vascular disorders
- Emerging evidence also suggests a potential role in vasospastic angina and sympathetically mediated chest pain

Case Report

- 69-year-old man with past medical history of vasospastic angina, prior myopericarditis, paroxysmal atrial fibrillation s/p multiple ablations and DVT/PE on warfarin
- Presented with worsening left-sided “squeezing” chest pain along with tachycardia, hypertension and intermittent atrial fibrillation with rapid ventricular rate
- Cardiac workup resulted in negative troponins, EKG without ischemic changes and chest pain not relieved by nitroglycerin
- Clinical features suggested sympathetic-mediated chest pain
- Warfarin was reversed with Vitamin K prior to procedure
- Left SGB was performed under ultrasound guidance at the C6 level
- Patient developed left Horner’s syndrome (ptosis, miosis and anhidrosis) along with increase in left upper extremity temperature
- Chest wall pain dramatically improved from 9/10 to 4/10 immediately following the procedure, along with return of heart rate and blood pressure to baseline
- Discharged from hospital next day

Block Technique



- Left stellate ganglion block was performed under ultrasound guidance at the C6 level with 4ml of 0.5% ropivacaine and 10mg of dexamethasone

Discussion

- SGB is commonly performed at C6 to decrease the risk of inadvertent vertebral artery puncture or injury to lung apex
- Left sided block can affect cardiac sympathetic innervation
- Cardiac indications: refractory angina or ventricular arrythmias
- Cardiac contraindications: recent myocardial infarction, atrioventricular block, baseline bradycardia or hypotension, poor cardiopulmonary reserve
- Potential complications include vascular puncture, hematoma, recurrent laryngeal nerve block, phrenic nerve block, intravascular injection, pneumothorax, and neuraxial spread.
- Role of anticoagulation: classified as a deep peripheral block with intermediate bleeding risk
- Objective sign of successful block is 2° increase in ipsilateral limb temperature

Conclusion

- SBG can temporarily interrupt sympathetic signaling and may have applications beyond traditional peripheral pain syndromes
- This case demonstrates improvement in vasospastic angina following SGB
- Sympathetic blockade may be a useful adjunct in carefully selected patients with refractory chest pain after acute coronary pathology has been excluded

References

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