

[NM-230] The iPad test and Supraclavicular block: Evaluation of a Raynaud's phenomenon patient for surgical sympathectomy

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Introduction: Chemical and surgical sympathetic blockade have been studied as strategies for mitigating sympathetic vasoconstriction to improve blood flow and provide relief from the pain and ulcerations associated with Raynaud's phenomenon (RP).^{1,2,3} Surgical intervention is typically reserved for cases of RP that are refractory to pharmacological management. In such cases where a coexisting pathology may contribute to poor perfusion, a successful preoperative chemical sympathectomy may identify patients who are likely to have a good clinical response to surgical sympathectomy. Although stellate ganglion blocks are ideal for providing profound sympathectomy of the upper extremity, brachial plexus blocks have been studied as a viable alternative.^{4,5}

Case Discussion: An 18yo female with a history of mixed connective tissue disorder (MCTD), peripheral vasculitis, and RP presented with a two-week flare of cold, painful, discolored fingers. Serial exams revealed rapidly progressive ischemic changes of her distal phalanges despite aggressive medical therapy with steroids, nitroglycerine, nifedipine, plaquenil, trental, and tadalafil. A chemical sympathectomy was achieved with an US-guided supraclavicular block using 15ml of 0.25% bupivacaine and dexamethasone 6mg. Successful block placement was confirmed by 1.3°C increase in skin temperature and appropriate upper extremity weakness. On follow-up, the patient was observed using her fingers to navigate an iPad. The patient reported that she previously lost this ability because "it couldn't pick up heat from my finger." Post-block, she received intermittent prostacyclin infusions until microscopic sympathectomy of radial, ulnar, and digital arteries were performed.

Conclusion: The brachial plexus block delivered an adequate upper extremity sympathectomy as confirmed by increased peripheral cutaneous temperature and return of patient's ability to use her iPad touchscreen. Both indicators suggested that the patient had a significant sympathetically-mediated component to her disease, which is particularly important in the setting of a MCTD that likely contributed to the patient's vascular compromise.^{4,6} This case illustrates a novel indication for supraclavicular block as a diagnostic and therapeutic tool prior to surgical sympathectomy.

References

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