Stellate Ganglion Blocks for Systemic Scleroderma

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KEY CLINICAL FINDING

A series of 3 stellate ganglion blocks was associated with improved ulcer healing and pain in refractory digital ischemia from systemic sclerosis after extensive prior medical and surgical interventions.

BACKGROUND

- Systemic sclerosis (SSc) is a complex autoimmune disease characterized by progressive fibrosis and a prominent vasculopathy that frequently manifests as Raynaud phenomenon and digital ulcers.
- Digital ulcers can be painful, slow to heal, function-limiting, and complicated by infection.
- Some patients develop refractory ischemia despite therapy with vasodilators or prostacyclin analogs and procedural interventions.
- Stellate ganglion blocks (SGB) have emerged as a minimally invasive intervention targeting sympathetic-mediated vasoconstriction to improve perfusion and pain.

MATERIALS & METHODS

As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Ochsner's policy. Patient informed consent was obtained for this case report to be presented.

CLINICAL IMAGES



Before stellate ganglion series



After stellate ganglion series

CLINICAL SIGNIFICANCE

SGB offers a reversible, titratable reduction in sympathetic tone. In this case, serial blocks were associated with improved healing and pain after failure of extensive medical and surgical interventions.

PROPOSED MECHANISM

1	**Sympathetic blockade**	Reduced sympathetic efferent activity
2	**Vasodilation**	Less digital arterial/arteriolar vasoconstriction
3	**Improved perfusion**	Improved regional blood flow and oxygen delivery
4	**Clinical effect**	Potential contribution to wound healing + pain reduction

CLINICAL COURSE

2024	61 yo F with SSc complicated by severe digital vasculopathy and recurrent digital ulcers had surgical sympathectomy for ischemic complications of the left index finger.
Early 2025	Five digital ulcers developed on bilateral hands; right thumb and left index finger progressed to osteomyelitis. R thumb treated with surgical debridement & antibiotics but L index refractory to multiple treatments.
Late 2025	Left index ulcer debrided; cultures grew Pseudomonas. Treated with 6 weeks of ciprofloxacin and trimethoprim-sulfamethoxazole.
Dec 2025 – Jan 2026	Hospital admission for 5 days of IV epoprostenol course improved overall hand pain and healed additional ulcers; left index lesion persisted.
Before SGB	Persistent ischemic ulcer with eschar, delayed capillary refill, significantly impaired dexterity and function, and pain up to 10/10 with trauma or pressure.
SGB series	Three left C6 stellate ganglion blocks using 8 mL of 0.25% bupivacaine + 10 mg dexamethasone.

PROCEDURE

TARGET	Left stellate ganglion at C6
GUIDANCE	Fluoroscopy to identify and mark C6 vertebral level After local infiltration with lidocaine via a wheal technique, ultrasound guidance was used to advance 22-gauge, 4-inch needle to the anterior surface of the longus colli muscle
INJECTION	8 mL 0.25% bupivacaine + 10 mg dexamethasone incrementally over ~4–5 minutes
SAFETY	Negative aspiration for blood or air before injecting; tolerated injection well with no intravascular uptake or complications; no symptoms suggestive of local anesthetic systemic toxicity, including tinnitus, circumoral numbness, or hemodynamic instability

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