COMPLICATIONS OF STELLATE GANGLION BLOCK

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The anatomy predicts the potential side effects and complications from both the needle and the drugs with this technique. Spread of the solution into the groove between the esophagus and the trachea blocks the ipsilateral recurrent laryngeal nerve, leaving the patient with a hoarse voice for the duration of the local anesthetic effect. If the solution is administered deep to the prevertebral fascia, the local anesthetic will spread posteriorly and laterally and will involve the somatic components of the brachial plexus. A serious complication occurs if the solution is injected into the vertebral artery that can cause seizures. Cervical plexus block with phrenic nerve paralysis, though uncommon, is also possible.

**NEEDLE IN WRONG PLACE:**

- Hematoma from vascular trauma
  - Carotid trauma
  - Internal jugular vein trauma
- Neural injury
  - Vagus
  - Brachial plexus roots
- Pulmonary injury
  - Pneumothorax
  - Hemothorax
  - Chylothorax (thoracic duct injury)
  - Esophageal perforation

**SPREAD OF LOCAL ANESTHETIC:**

- Intravascular injection
  - Carotid artery
  - Vertebral artery
  - Internal jugular vein
- Neuraxial/brachial plexus spread
  - Epidural block
  - Intrathecal
  - Brachial plexus anesthesia or injury (intraneural injection)
- Local spread
  - Hoarseness (recurrent laryngeal nerve)
  - Elevated hemidiaphragm (phrenic nerve)

**INFECTION:**

- Soft tissue (abscess)
- Neuraxial (meningitis)
- Osteitis
Some indications for stellate ganglion block:

- Raynaud's Disease
- Reflex Sympathetic Dystrophy in the upper limb
- Relief arterial vasoconstriction in the upper limb
- Herpes Zoster
- Hyperhidrosis
- Complex Regional Pain Syndrome Type I and II
- Refractory Angina
- Phantom Limb Pain
- Scleroderma
- Frostbite
- S/P vascular reconstruction, limb reimplantation

References:
