

Case description

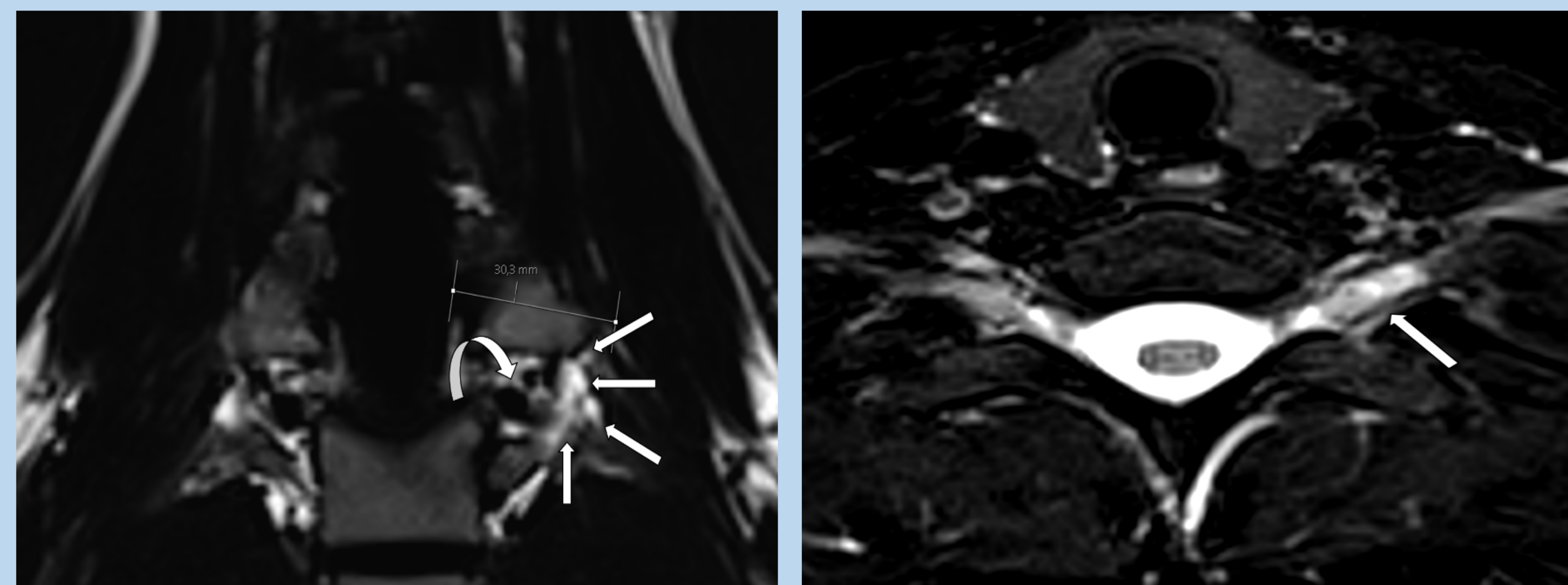
- A 26-year-old woman with chronic left **brachialgia** (ulnar side left arm and hand)
- **Hypoesthesia** ulnar side left arm and hand
- **Atrophy** and reduced force of the left m. abductor pollicis brevis > m. abductor digiti minimi and the m. interosseus dorsalis I
- **EMG** shows severe **inferior brachial plexopathy**:
 - Conduction study:
 - ↓ amplitude of the **sensory ulnar nerve**
 - ↓ amplitude of the **medial cutaneous nerve of the forearm**
 - ↓ amplitude **motor median nerve**
 - The needle EMG shows severe **chronic neurogenic** impairment, in the myotoma **T1 > C8**

Diagnosis

True Neurogenic Thoracic Outlet Syndrome (TN-TOS) caused by a prominent transverse process of C7



X-Ray shows a **prominent transverse process of C7**



MRI shows compression of the left C8 and T1 below the transverse process, with these left nerve roots being surrounded by slightly **more fat (left)** and **edema (right)** than on the right

Discussion

- TN-TOS is the rarest subtype of TOS (1-3%), with prevalence of 1/1000000
- **Clinical presentation:**
Sensory and motor symptoms T1 > C8 with typical **Gilliat Sumner hand** (atrophy m. abductor pollicis brevis, m. opponens pollicis > m. abductor digiti minimi)
- **Diagnosis/investigations**
 - **EMG: inferior brachial plexopathy** with abnormalities in T1 > C8 myotoma
 - **X-ray of chest / thorax and MRI of brachial plexus:** to exclude underlying (structural) cause
- **Differential diagnosis**
 - disputed TOS (dTOS)
 - Carpal tunnel syndrome
 - Cubital tunnel syndrome
 - C8/T1 radiculopathy
- **Treatment:**
Surgery is indicated in case of progressive neurological failure or if conservative treatment of six months failed.