Surgical Treatment of the Thoracic Outlet Syndrome

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**Objective:**
Review a series of 36 TOS cases operated at our institution

**Methods:**
- Selected 32 patients (36 plexuses) operated for TOS
- Mean follow up was 18.4 months (minimum of 6 months)
- 29 females, 3 males, mean age 36.5 y
- Classified according to Wilbourn
- Supraclavicular approach used on all cases

**Results:**
- Excellent or good on 75% of total cases
  - Excellent 44.45%
  - Good 30.55%
  - Fair 16.65%
  - Poor 8.35%
- Excellent or good on 71.43% of "disputed" cases
- Excellent or good on 56.35% of cases previously diagnosed as Repetitive Strain Injury
- Excellent on 87.50% of "true" neurogenic cases

**Conclusions:**
- TOS incidence is higher on middle-aged women, on the right side
- Explains atypical pain on the upper limbs
- Hard to diagnose on "disputed" type
- Clinical examination must be meticulous and repeated over several times
- Surgery is indicated on assured cases after failure of conservative treatment
- The supraclavicular approach is safer and allows wide exposure
- Double-Crush Syndrome must be kept in mind

**Complicatons:**
- Found on 27.74% of cases (10 patients)
- Transient hemidiaphragm paralysis on 3 cases
- Supraclavicular hematoma on 3 cases
- Complex Regional Pain Syndrome on 1 case
- Adhesive capsulitis on 1 case
- Transient Serratus Anterior paralysis on 1 case
- Hypertrophic scar on 1 case

**Compressing anatomic alterations found:**
- Fibrous bands: 13%
- Cervical rib: 13%
- Anterior or Intercostal: 10%
- Subclavian Artery: 10%
- Anomalous vessel: 31%
- Scalenus muscle: 25%

(On nine cases presenting cervical ribs, this alteration was not found to be the cause of compression).