Sheffield Hand & Elbow Pain

Carpal Tunnel Syndrome Supporting Information for GPs

Presentation

- Pins & needles and/or numbness or burning sensation or pain in Median Nerve distribution
- Pain may radiate up wrist/arm
- Initially night/early morning though with time in day also
- Symptoms often relieved or improved by shaking/moving hand
- Weakness may occur especially of thumb grip
- History of dropping things and clumsiness of fine finger function may follow

Median Nerve Distribution

- Wide variation in distribution but little finger is almost always excluded
- Palm is usually supplied by a superficial branch of the median nerve which bifurcates proximal to the carpal tunnel hence the palm may be spared also
- Supplies Opponens Pollicis/ abductor Pollicis Brevis which form the Thenar eminence hence wasting can occur

Differential diagnosis

- Other nerve entrapment syndromes such as cervical radiculopathy (C6/7) or ulnar nerve compression
- Peripheral Neuropathies especially diabetes
- Demyelinating disorders
- Repetitive strain Injuries (RSI) and work related upper limb disorders (WRULD)

Associations (more likely if symptoms bilateral)

- Hypothyroidism
- Rheumatoid Disease
- Diabetes Mellitus
- Pregnancy
- Previous Colles' fracture
- Use of vibrating tools
- Amyloidosis
- Acromegaly

Prevalence

- 3% of females and 2% of males in population
- Peak age is 55yrs
- Family history (1 in 4 patients have 1st degree relative)

Diagnostic Tests and Signs

CTS can be confidently diagnosed by history alone in many patients.

1. **Scored Questionnaire**
   The scored questionnaire developed by Levine et al was validated for diagnosis of CTS. The positive predictive value of the questionnaire is 90% (compared with 92% for nerve conduction studies)

2. **Clinical tests (of confirmatory value only)**
   Phalens Test-Flex wrist for 60 seconds and occurrence of pain/paraesthesia is positive

   Tinel's sign-Tap over median nerve at wrist, distal paraesthesia is positive

3. **Nerve conduction studies**
   Gold standard investigation though does have false negative rate estimated at 10%

   In view of sensitivity of scoring questionnaire NCS can be reserved for atypical cases

4. **Other investigations**
   In some patients (eg those with bilateral symptoms or additional clinical suspicion) consider Thyroid function test and Glucose

Treatment Options

- **Simple analgesia**- there is no evidence that NSAIDS or diuretics are of any benefit over placebo
- **Modification of activity-** relevant to all patients but especially where RSI component or work related problem. This may include assessment/adaption of work- station set up.
- **Night splinting-**splinting in neutral position shown to be helpful to some degree in 80% of cases
- **Local Corticosteroid injection-** shown in RCT's to give relief in 77% of patients at one month and 50% at a year.
- **Surgery-**where other treatments fail or as a first line treatment where muscle wasting or permanent sensory deficit exist at presentation

Patient Information

Information and advice sheets for patients can be found at the following sites:

- www.patient.co.uk/showdoc/23068696/
- NHS Choices Website www.nhs.uk - View Health A-Z short cuts on Carpal Tunnel Syndrome
- Arthritis Research Campaign www.arc.org.uk/arthinfo/patpubs/6008/6008.asp