Dupuytren’s Disease: Epidemiology, Aetiology & Current Theories

Richard Jeavons
ST5 North Tees Hospital
SpR Teaching
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Hartlepool Hospital
Outline

• History
• Epidemiology
• Clinical Presentation
• Aetiology
• Others / Current Theories
HISTORY OF DUPUYTREN'S DISEASE

Dupuytren’s Disease:
Epidemiology, Aetiology & Current Theories
• 1200-1300  Icelandic Sagas  
  Miracle Cures of priests in Orkney & Iceland

• 1600s  “Curse of The MacCrimmons”  
  Western Isles of Scotland

• 1614  Swiss Felix Platter  
  (flexor tendon contracture)

• 1777  Henry Cline  
  (Involvement of palmar fascia)

• 1822  Sir Astley Cooper  
  (closed fasciotomy)
• 1831
• Baron Guillame Dupuytren
• Anatomical & Pathological Description
• By 1900 > 250 publications on Dupuytren’s Disease
Famous Faces??
Famous Faces
Dupuytren’s Disease: Epidemiology, Aetiology & Current Theories

CLINICAL PRESENTATION OF DUPUYTREN’S DISEASE
History

• Palmar Nodules (initially painful)
• Palmar Cords
• Digital Deformity
  – Contractures
  – Progression over preceding 6 months?
• Functional limitations
  – Poking Eye when washing
  – Hand into pocket
  – Manual dexterity
History

• Age
  – Young (<50 yrs) ? DD Diathesis

• Family History of DD

• Related conditions
  – Diabetes, epilepsy, Alcohol XS, Hyperlipidaemia etc

• Employment?
Examination: LOOK

• Palmar
  • Early
    – Skin Pits
    – Surface Ripples/Dimples
  • Established
    – Nodules & Cords
    – Contractures
    – Rotational Deformity
    – Measure MCPJ & PIPJ

• Dorsum
  • Garrod’s Nodes
    – Nodules dorsum PIPJ
  • Knuckle Pads
    – Fibrosing Lesions dorsum PIPJ
  • ? Dupuytren’s Diathesis
  • Young, FHx, Bilateral disease, Feet (Ledderhose), Penis (Peyronie’s)
Examination: LOOK
Examination: FEEL & MOVE

- Nodules & Cords usually painless
- Fixed contractures?
- Range of movement of MCPJ & PIPJ
- Measure with goniometer
- Old scars / Surgery
- Distal NV status
Heuston’s Table-Top Test
Digital Allen’s Test
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EPIDEMIOLOGY OF DUPUYTREN’S DISEASE
Race

- Commonest in Northern Europe
  - Scandanavian (Vikings Disease)
- Sporadic reports in non-white races
- Case Reports in Black races
- Northern Japanese similar incidence to Northern Europe
  - Much Less severe, unusual to get MCPJ contracture
  - ? Genetic contamination (eastward migration)
Prevalance

- In UK > 2million people
- 4 - 6% of Caucasian populations
- Some reports up to 42%
- Male Vs. Female
  - Overall ~ twice as common in men
  - Norwegian Town (1990) – 9.4% Vs. 2.8%
  - Icelandic Study (2000) – 19.2% Vs. 4.4%
- Increases with age
Age

- Males present in 5\textsuperscript{th} Decade
- Women present in 6\textsuperscript{th} Decade
- Recent case report in a child of 9 years
- If younger presentation consider Diathesis
- Equal prevalence in men & women by 80 years
AETIOLOGY OF DUPUYTREN’S DISEASE

Dupuytren’s Disease:
Epidemiology, Aetiology & Current Theories
Alcohol

- DD strongly associated with heavy drinking
  - Chronic Alcoholics with Cirrhosis
  - Prevalence 66% if cirrhosis
  - Prevalence 27% if no cirrhosis
- Alcoholics with Liver Disease Vs. Non-alcoholics with liver disease Vs. control
  - 43% Vs. 34% Vs. 8%
Smoking

• 1\textsuperscript{st} noted by Fraser-Moodie 1976
• Subsequent studies strongly associate DD with smoking
• Microvascular occlusion & fibrosis?
• Icelandic Study DD common among heavy smokers (p=0.018)
Manual Work

• Dupuytren suggested link
• Lots of evidence showing NO link between occupation & DD
• Equal incidence for:
  – Manual & Non-manual workers
  – Dominant Vs. non-dominant hand
• Vibration exposure in work
  – More common if exposed (OR 2.3 -2.6%)
Injury

• Heuston 1968 – DD after distal radius #
• Stewart, Innes & Burke (1985)
  – 235 Colles # followed to union / 209 seen at 6/12
  – Incidence of DD 11%
• Livingston & Field (1999)
  – 72 Colles #
  – 9/52 & 18/12 for DD & Algodystrophy
  – 41% had evidence of DD
  – 67% of patients with algodystrophy had DD Vs. 19% without
Diabetes

- 5% of DD have Diabetes (Type 1 or 2)
- 43% of Diabetics have DD
- In Type 1 DM age of onset & duration significant in development of DD
- 20 years 67% diabetics have DD
- More aggressive & affects radial digits
Epilepsy

- Little conclusive evidence
- Small increase of epilepsy in DD pts (3% Vs 1.5%)
- Reported incidence of DD between 12 – 56 %
- Higher incidence of Knuckle pads & Ledderhose disease
- ? Propensity to generalised fibrotic condition
- No real evidence for role of antiepileptics
Serum lipids

• Sanderson et al (1992)
  – DD sig. higher fasting cholesterol & triglycerides Vs. control (p=0.001)

• Caroli et al (1992)
  – 54.8% of pts with DD had dyslipidaemia

• ? Explain relationship to diabetes, alcohol & epilepsy
Rheumatoid Disease

- Icelandic Study (2000)
- Lower incidence with RA
- ? Genetic & immunological factors
- ? Reduced oxygen free radicals due to administration of prostoglandin inhibitors
Genetic Factors

- First suggested in 1833 by Goyrand
- Good evidence of genetic link
- To date exact penetrance unclear
- Autosomal Dominant with variable penetrance
Others / Current Theories

- Pulmonary TB
  - up to 50% incidence of DD
  - High rate of DD in <30 yrs
- HIV
  - Advanced infection
  - 36% had DD
Conclusions

• Long History of condition
• Diagnosis quite easy clinically
• Look for features of aggressive disease
• Northern Europe highest prevalence
• Multiple aetiological factors
References

• Townley et al. Dupuytren’s Contracture Unfolded. 2006. BMJ. 332: 397-400.