



Dupuytren's Disease: Epidemiology, Aetiology & Current Theories

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Outline

- History
- Epidemiology
- Clinical Presentation
- Aetiology
- Others / Current Theories

Dupuytren's Disease:
Epidemiology, Aetiology & Current Theories



HISTORY OF DUPUYTREN'S DISEASE

- **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 Guillaume Dupuytren**
- Anatomical & Pathological Description
- By 1900 > 250 publications on Dupuytren's Disease



Famous Faces??



Famous Faces



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CLINICAL PRESENTATION OF DUPUYTREN'S DISEASE

History

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

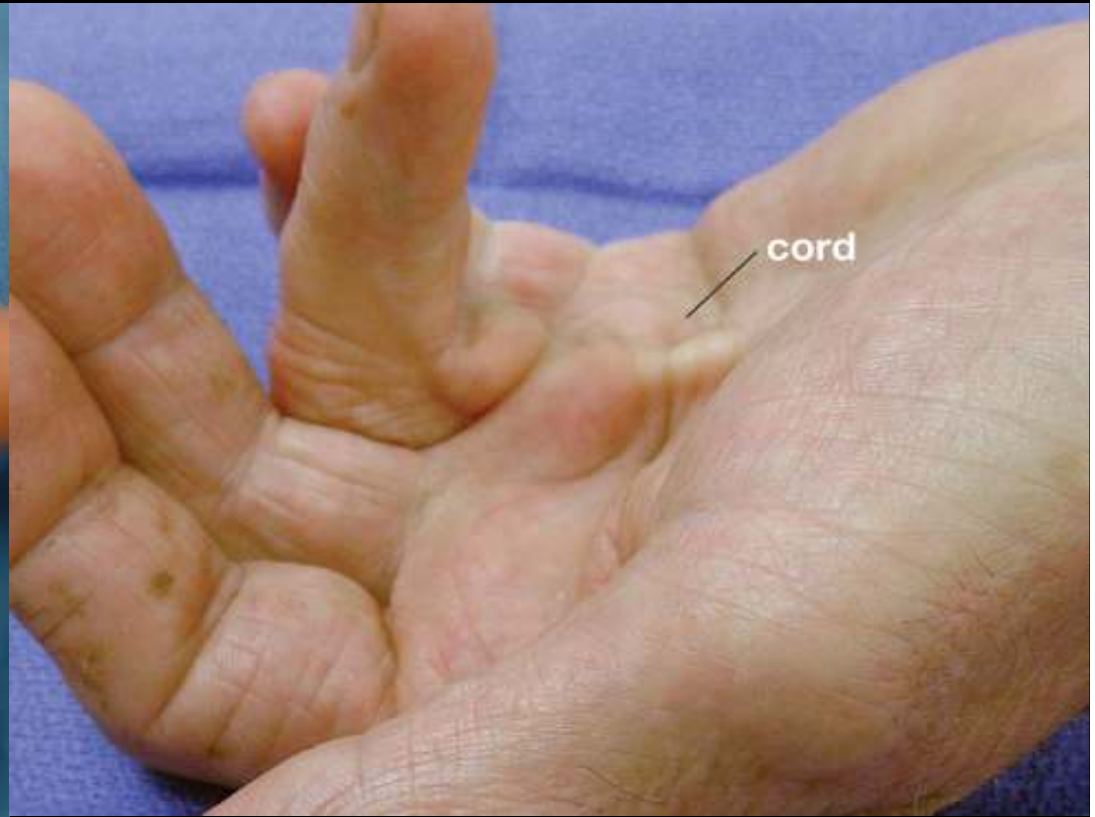
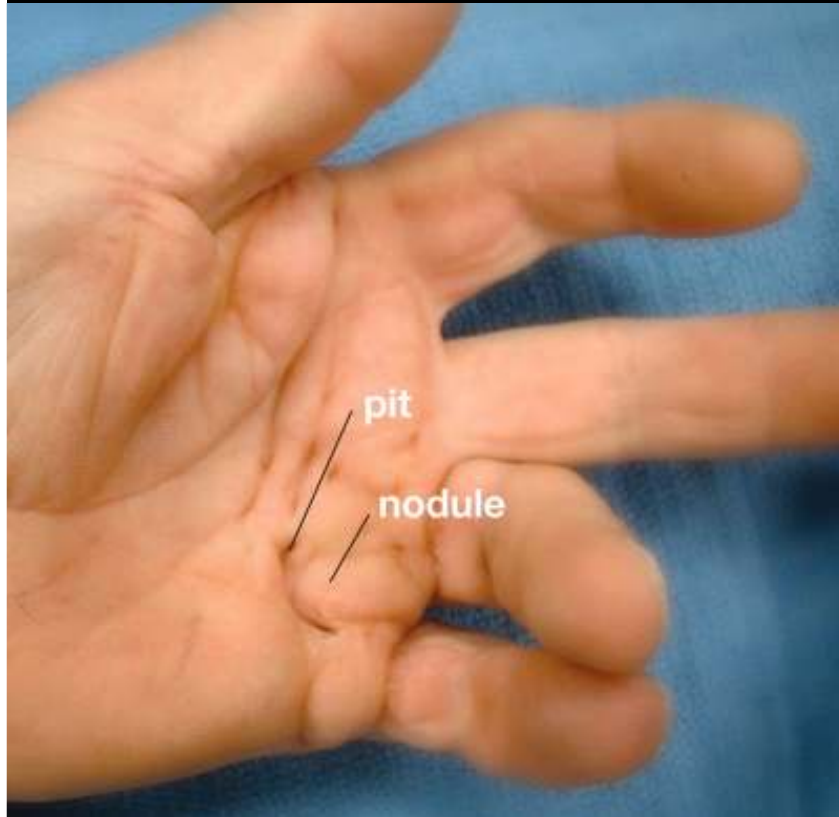
History

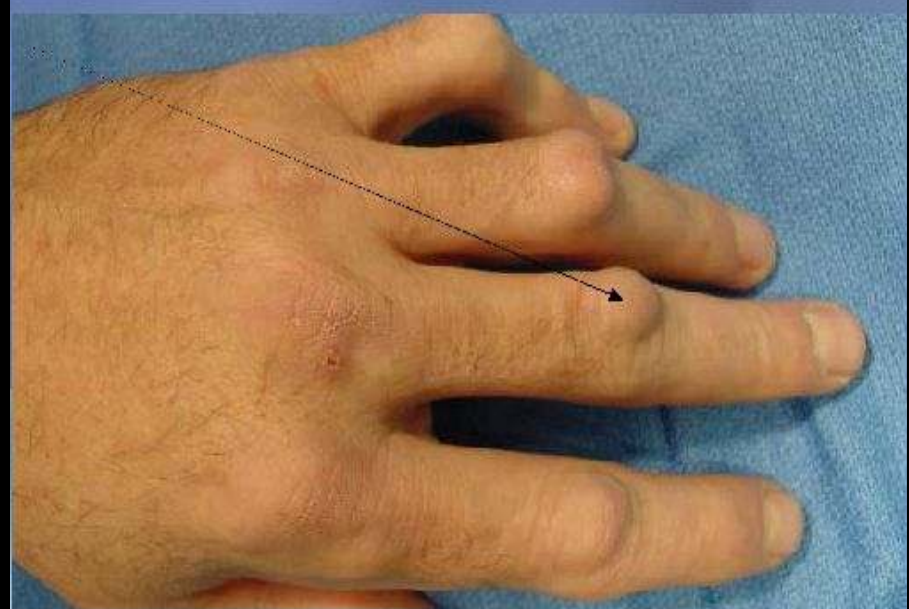
- Age
 - Young (<50 yrs) ? DD Diathesis
- Family History of DD
- Related conditions
 - Diabetes, epilepsy, Alcohol XS, Hyperlipidaemia
etc
- Employment?

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

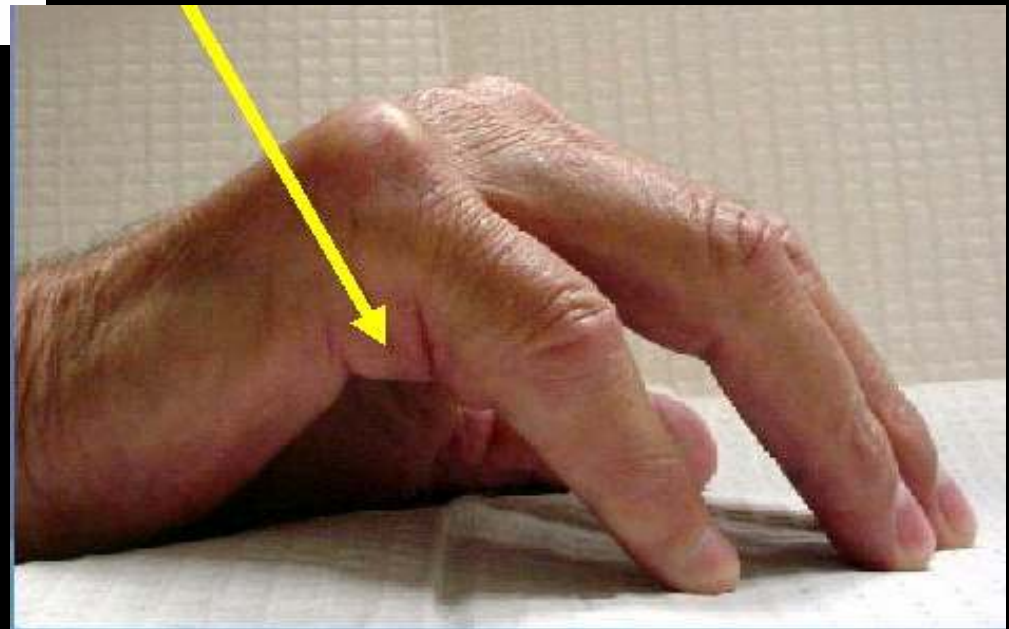
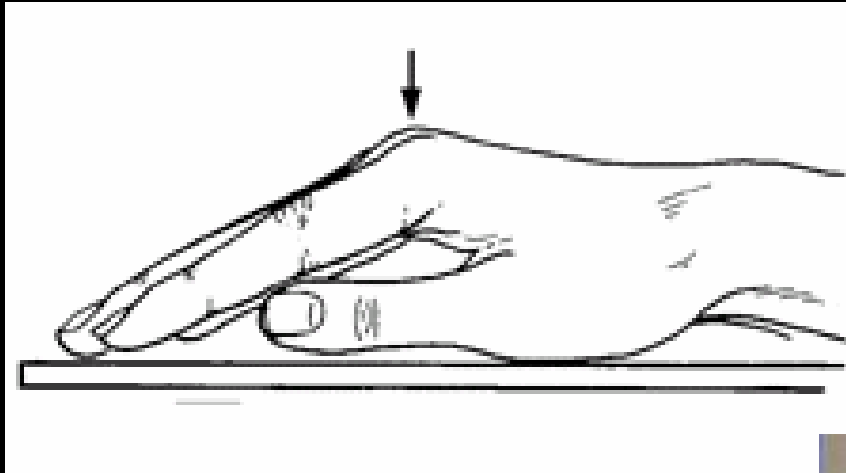




Examination: FEEL & MOVE

- 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 5th Decade
- Women present in 6th Decade
- Recent case report in a child of 9 years
- If younger presentation consider Diathesis
- Equal prevalence in men & women by 80 years



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AETIOLOGY OF DUPUYTREN'S DISEASE

Alcohol

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

The next morning, Edmund vowed never to drink stroh rum again...



Smoking

- 1st 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

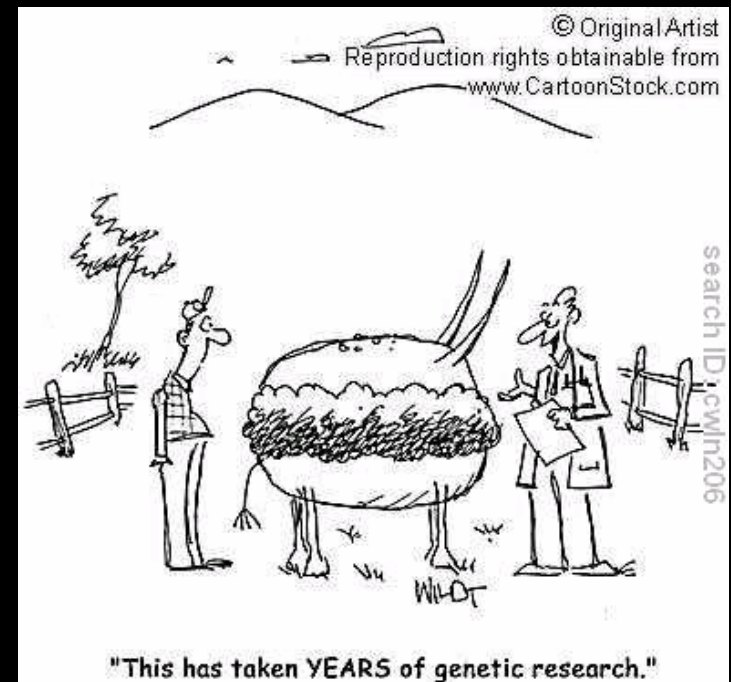
Rheumatoid Disease

- 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

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