ORTHOPAEDICS

FOR PRIMARY HEALTH CARE

LION

LEARNING INNOVATION VIA ORTHOPAEDIC NETWORKS

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Dupuytren's disease

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Learning objectives

1. Be able to recognise Dupuytren's disease.
2. Be able to explain the course of the disease.
3. Realise that it can involve different areas such as the feet and Peyronie's disease.
4. Refer appropriately.

Definition

Dupuytren's disease is usually a progressive, benign fibromatosis of the fascial bands of the palm and digits causing palpable pathological cords and nodules. These cords lead to contractures of the metacarpophalangeal (MCPJs), and proximal interphalangeal joints (PIPJs), the distal interphalangeal joints (DIPJs) are rarely involved. It is not a disease of the tendons.

Background

Dupuytren's is a disease that originates from the Scandinavian Peninsula, the so-called Viking disease. There is a much higher incidence in people of Northern European descent. The relevant associations to note are high alcohol intake and consequent liver disease, smoking, family history, glycogen storage diseases, epilepsy and diabetes.

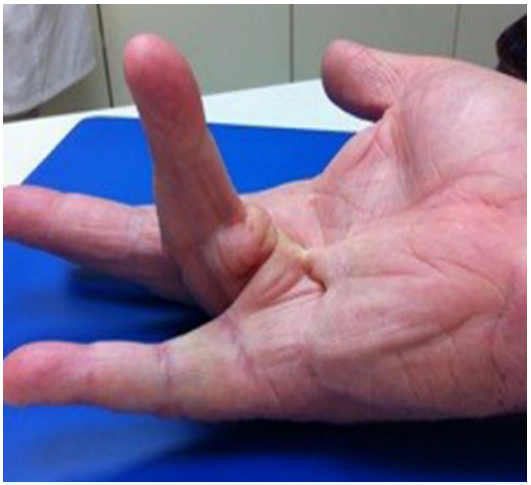
Symptoms or presentation

Dupuytren's disease is twice as common in males as females, starts at a younger age in males (55 years) and is also more aggressive in males. The incidence increases with increasing age. In rare cases, an aggressive form of the disease occurs in younger patients and may affect their plantar fascia (Ledderhose disease), MCPJs (Garrod's knuckle pads) and genitals (Peyronie's disease). This form is known as the Dupuytren's diathesis. Earlier onset disease is usually more aggressive and has a higher recurrence rate.

Critically it is overwhelmingly a ***painless*** disease, but nodules can occasionally be sensitive (pain should alert to other cause). Patients usually complain of either cosmetic deformity or difficulty opening the hand to grasp objects.

Diagnosis

The diagnosis is a clinical one, with palpable, thick cords running longitudinally in the palm and proximal fingers causing the contractures. The cords may form deep pits or thickened nodules along the cord where they insert into the fascia near the skin. There is no need for special investigations. The most common involved digit is the ring finger and MCPJ. Involvement of the radial side of the hand is atypical and more likely to be aggressive and recurrent.



Classic Dupuytren's disease affecting the ring

Main questions to ask the patient

1. What is your main concern? Functional or cosmetic?
2. How long has this taken to come about, that is how rapidly is it progressing?
3. Is there any associated pain?
4. Have you lost any sensation to the fingers (the cords can sometimes compress the digital nerves)?
5. Can you put your hand flat on the table (Heuston's tabletop test)?
6. Is there anyone in your family with a similar problem?

Management

Non-surgical

If the patient can put their hand flat on the table, they probably do not need surgery. The disease is progressive, but finger extension stretches and night extension splints may benefit them, even though there is no evidence for it.

There is some evidence that radiotherapy can slow the progression of the disease, specifically in younger patients who present early.

Surgical

Surgery is reserved for those in whom the flexion deformity is impacting their work or daily activities. Progressive contracture of the PIPJs should be surgically released at an earlier stage than the isolated MCPJ contractures. Sometimes patients may present late, and the flexion contracture is so severe they cannot open their finger or fingers at all, and hygiene is an issue. These patients should be referred for assessment.

Once the diagnosis has been made, it is the patient's choice as to whether they want surgery, as it is a benign condition. Some patients with severe deformity decline surgery and should just be made aware of the progressive nature of the disease and that it is difficult to get a full correction in severe contractures.

Surgical options

1. Percutaneous needle fasciotomy.
2. Collagenase injection (inject the collagenase and 48 hours later break the tendon by stretching under local anaesthesia) – not available in South Africa.
3. Open fasciectomy can be partial, or complete with or without excision of the overlying skin (dermofasciectomy).

4. Amputation is the last option for patients with severe disease and recurrence after multiple surgeries and is usually the patient's choice.

It is impossible to cure Dupuytren's disease by completely resecting all the cords. Recurrence is, therefore, inevitable. However, intuitively the more the disease is resected, the longer the intervening period before recurrence. Recurrence rates for percutaneous needle fasciotomy are about 67% after two years. It is about 50% after three years for limited fasciectomy and a dermofasciectomy, 30% after five years.

Complications

1. Recurrence
2. Iatrogenic nerve injury
3. Skin or wound breakdown
4. Infection
5. Incomplete joint release
6. Iatrogenic tendon injury (rare)
7. Vascular compromise from iatrogenic injury or arterial spasm with extension

Pitfalls

1. Failure to diagnose the condition.
2. Failure to counsel patients adequately about the disease to understand the natural history.
3. Failure to recognise young patients with severe disease who require early intervention and monitoring.
4. Not recognising the spiral cord and its intimate association with the digital nerve around it.

References

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Assessment

A very concerned 60-year-old male patient presents with a nodule in his palm. He cannot straighten his ring finger fully and says he vaguely remembers his father having a similar problem.

You:

A. Request an urgent MRI to exclude malignancy.
B. You tell the patient there is no need to worry and there is no treatment needed.
C. You reassure the patient that it is a benign condition, which will likely progress and then refer him if he has functional limitations.
D. You give the patient a steroid injection.
E. You diagnose a trigger finger and refer him for surgery.

The correct answer is (C), reassure the patient that it is a benign condition, which will likely progress and then refer him if he has functional limitations.

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ABOUT THE BOOK

Informed by experts: Most patients with orthopaedic pathology in low to middle-income countries are treated by non-specialists. This book was based on a modified Delphi consensus study* with experts from Africa, Europe, and North America to provide guidance to these health care workers. Knowledge topics, skills, and cases concerning orthopaedic trauma and infection were prioritised. Acute primary care for fractures and dislocations ranked high.

Furthermore, the diagnosis and the treatment of conditions not requiring specialist referral were prioritised.

* Held et al. Topics, Skills, and Cases for an Undergraduate Musculoskeletal Curriculum in Southern Africa: A Consensus from Local and International Experts. JBJS. 2020 Feb 5;102(3):e10.

THE LION

The Learning Innovation via Orthopaedic Network (LION) aims to improve learning and teaching in orthopaedics in Southern Africa and around the world. These authors have contributed the individual chapters and are mostly orthopaedic surgeons and trainees in Southern Africa who have experience with local orthopaedic pathology and treatment modalities but also in medical education of undergraduate students and primary care physicians. To centre this book around our students, iterative rounds of revising and updating the individual chapters are ongoing, to eliminate expert blind spots and create transformation of knowledge.

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