
- Described the anatomy and incidence of the first metatarsophalangeal joint meniscus
- Seen in about 50% of patients during bunion surgery
1. first metatarsal head
2. lateral metatarsosedemoid ligament
3. lateral sesamoid
4. lateral phalangeosedemoid ligament
5. proximal phalanx
6. meniscus
7. medial phalangeosedemoid ligament
8. medial sesamoid
9. intersesamoid ligament
10. medial metatarsosedemoid ligament

• Anatomical cadaver study on 102 feet:
  – in cadavers the meniscus was more common in patients with hallux valgus

• Clinical prospective study on 100 consecutive hallux valgus surgeries:
  – in patients with a mild hallux valgus the meniscus was found in more than half of cases during surgery, while it was seldom found in patients with moderate or severe deformities
Cadaveric study – results:

- Meniscus present in 21% of the 102 specimens
- Mainly collagen with a chondroid matrix and fibrocartilage
- 21 (10 bilateral) feet with hallux valgus:
  - 7 (33%) had a meniscus
  - 14 (66%) did not have a meniscus
- 81 cadaveric feet without hallux valgus:
  - 14 (17%) had a meniscus
- The incidence of the meniscus of the two groups was not significantly different
Clinical study – results:

• overall incidence of a meniscus in the MTP joint was 47%

• extended from the medial capsule and medial collateral ligament
Clinical study:

• Hallux valgus:
  • mild (HV angle less than 32)
  • moderate (HV angle 32–35)
  • severe bunion (HV angle more than 35) deformity
Conclusions:

• Presence of meniscus stabilizes the MTP joint preventing progression of the hallux valgus deformity and may explain the pain, which is often seen in mild bunions in younger patients.

• Once the rotational deformity increases the meniscus tears and slips into the joint.

• In the more advanced hallux valgus deformity this meniscus plays little function and seems to disappear, leading to arthrosis.
Conclusions:

• Meniscus supplements the stability of the first MTP joint especially at the plantar medial side

• When ruptured it may play an important role in inducing and the progressivity of the hallux valgus deformity, due to the lack of medial and plantar support
References
