

DEFINITION

1. The common ganglion is a tense, cystic, localised swelling, usually adjacent to a joint capsule or tendon sheath. Ganglia usually first appear in early adult life.
2. This Appendix is not concerned with the normal clumps of cells in the nervous system, which are also called ganglia.

CLINICAL MANIFESTATIONS

3. Ganglia are usually attached to tendon sheaths or joint capsules, often by a short pedicle (stem). They occur most often in the hands, wrists and feet, but also in connective tissue elsewhere in the body. They are usually firm but not painful or tender.
4. Ganglia constitute about 60% of tumour-like soft tissue swellings affecting the hand and wrist. About 65% are dorsal wrist ganglia arising from the scapholunate joint. 20-25% are on the volar aspect over the distal end of the radius, where they may press on nerves. Nearly all the remainder are on the flexor tendon sheaths.
5. Ganglia of the feet tend to be troublesome through friction, pressure of footwear and vulnerability to trauma. Rarely, a ganglion can cause tarsal tunnel syndrome.
6. Small hard ganglia called "pearl ganglia" may occur on the flexor tendon sheaths of the fingers. These are very tender and painful when gripping objects.
7. A distinctly different, softer and irregularly shaped type of ganglion occurring on the dorsum of the wrist is associated with rheumatoid arthritis.
8. A now rare tuberculous condition called compound palmar ganglion is soft, painless and associated with the flexor tendons of the fingers. Fluctuation may be transmitted across the ligaments of the wrist, and there is muscle wasting in the forearm.
9. The wall of a ganglion contains synovial cells (the kind which line tendon sheaths and joint capsules) and is smooth, fibrous and of variable thickness. The centre contains very thick, sticky fluid like inspissated synovial fluid. Histologically, a ganglion is composed of stellate cells in a matrix of mucoid hyaluronic acid and reticular fibres. The centre is sometimes almost pure hyaluronic acid. Despite close proximity, the interior of the cyst does not communicate with the joint cavity or tendon sheath.
10. Most ganglia do not need treatment and spontaneous regression is common. They may also burst and disappear, either spontaneously or after a blow. Treatment may be offered if the ganglion becomes painful, large enough to interfere with the function of a joint, or large enough to cause cosmetic embarrassment. Aspiration may succeed, and only a minority (about 12% of those treated) need excision. Post-operative swelling and scarring may be as troublesome as the ganglion. With either treatment, recurrence is very common (about 20%), except in the case of pearl ganglia.

AETIOLOGY

11. The cause of common ganglia is obscure, with spontaneous development. Conflicting theories have been put forward. Some contend that they represent a degenerative process, while others regard them as benign tumours of synovial tissue.
12. Injury may be a predisposing factor in a minority of cases, but the existence of a causal relationship is arguable, if only because blows to the hands and feet are so common when compared to the incidence of ganglion.
13. The aetiology of ganglia associated with rheumatoid arthritis and tubercular infection, referred to in Paragraphs 6 and 7 above, relates to the underlying inflammatory and infective conditions respectively.

CONCLUSION

14. Ganglia are swellings of synovial origin which usually arise spontaneously. In a minority of cases, there is a history of trauma.
15. Except with certain well-defined types of ganglion, there is no known association with infection or other disease. There is no evidence of genetic predisposition. Ganglia are not malignant, nor prone to malignant change.

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