

Management of the occasional wrist ganglion

Harvey V. Thommasen, MD, MSc, FCFP

Clinical Associate Professor, Department of Family Practice, UBC Faculty of Medicine, Prince George, BC

C. Stuart Johnston, MB ChB, MSc(Eng) Civil, CCFP

Clinical Assistant Professor, Department of Family Practice, UBC Faculty of Medicine, Prince George, BC

Amy Thommasen, BSc(candidate)

Third-year BSc Student, University of Northern British Columbia, Prince George, BC

Correspondence to:
Dr. Harvey V. Thommasen, Clinical Associate Professor, Faculty of Medicine, University of British Columbia, 4202 Davie Ave., Prince George BC V2M 4G7

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The classic presentation of a ganglion cyst is that of a smooth, tense, fixed lump from which clear gelatinous fluid is aspirated. Treatment of ganglions includes: 1) reassurance, 2) aspiration, or 3) excision. Watch and waiting is a good option because so many resolve on their own and because recurrence is so common after aspiration and excision. Ganglia located on the dorsum of the wrist can be dealt with by most rural physicians. The method of management with the lowest risk of recurrence is surgical excision.

Un kyste ganglionnaire a habituellement l'apparence d'une masse fixe tendue et lisse dans laquelle on peut prélever un liquide gélatineux clair. Le traitement des ganglions consiste notamment à : 1) rassurer, 2) aspirer, 3) exciser. La surveillance et l'attente constituent une bonne option parce qu'un très grand nombre de ces kystes se résorbent naturellement et parce que la récurrence est très commune après l'aspiration et l'excision. La plupart des médecins ruraux peuvent traiter les ganglions situés au dos du poignet. L'excision chirurgicale constitue la méthode de prise en charge qui présente le risque le plus faible de récurrence.

Introduction

Ganglions are benign cysts that are found throughout the body, typically near a joint capsule, tendon or tendon sheath.[1–5] Ganglions are more common among women than men. The typical person presenting with a ganglion is in their 3rd to 6th decade of life. However, ganglions have been reported in people between 10 years and 80 years of age. The average size is around 3 cm, but ganglion cysts up to 10 cm in diameter have been reported. They can develop suddenly or gradually, and they can disappear as fast as they came on.

One study reported that 33% of dorsal ganglions and 45% of volar wrist ganglions resolve spontaneously by 6 years; and at 10 years 51% of dorsal ganglia and 63% of volar wrist ganglions spontaneously resolved. Children, particularly, have a high spontaneous resolution rate — up to 80%.[2,5]

Pain may be the presenting complaint, but most ganglions are painless. Pain, when present, usually suggests the cyst is putting pressure on a nerve or some other structure. Sometimes a lump may not be visible, and the only evidence the occult ganglia exists is chronic pain. Other people present because they are worried about malignancy, or they are worried about how the ganglion looks.[1,2]

On physical examination a ganglion typically feels smooth, fairly tense, and is fixed. It should not pulsate, and it should transilluminate if it is not too deep or too small. Differential diagnoses of a ganglion includes such things as an osteoarthritic spur, a giant cell tumour, lipoma, glomus tumour, Schwannoma, localized tenosynovitis, aneurysm, abscess and cancer.[1,2]

Clinical presentation and aspiration of thick, sticky, clear or slightly straw-coloured fluid using a large bore needle (18-G or larger) confirms the diagnosis. If aspiration is not possible or the ganglia is too small to palpate, ultrasound and magnetic resonance imaging can provide detailed information on size, shape, and depth of involvement.[1]

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Treatment of ganglions includes: 1) reassurance, 2) aspiration, and 3) excision.[2,3,5–7] Because so many ganglions spontaneously resolve on their own, reassurance is a good option, especially if the presentation is classic, the ganglion is not changing, is small, and is not causing pain. The patient should be told that the recurrence rate after aspiration with a large bore needle may be as high as 80%, and recurrence after surgical excision may be as high as 20% in the wrist area and as high as 40% in the foot and ankle. Multiple aspirations with a wide bore needle appear to reduce the recurrence rate for wrist ganglia to as low as 20% and is worth considering. Some authorities advocate aspiration with injection of steroid into the empty cavity, but the evidence to support this practice is weak and so it is not a generally recommended practice.[2]

Aspiration of ganglia located on the dorsum of the wrist can be performed by most rural physicians. Surgical excision of ganglia — including dorsal wrist ganglia — should be referred to physicians with extra surgical training if circumstances permit. Although surgical excision of ganglions offers the best chance for cure, surgery is more commonly associated with accidental injury to nerves (numbness, dysesthesia) and blood vessels, as well as scar formation, tenderness and dysfunction.

Equipment and preoperative preparation of site

Equipment necessary for aspirating or excising a ganglion is summarized in Table 1.[8] Using sterile technique, clean the wound and surrounding area with an antiseptic skin solution (e.g., chlorhexidine 2% with 4% isopropyl alcohol [e.g., Dexidin 2 Solution] or Betadine Surgical Scrub [7.5% Povidone-iodine]), and then wash it off with sterile sodium chloride solution (0.9%). Make a decision about what kind of anesthesia will be used — local, Bier Block or general. The less blood the better if surgical excision is planned. Local anesthesia is all that is required for the aspiration technique.

Table 1. Equipment necessary for ganglion aspiration / excision

- Gloves
- Antiseptic skin preparation solution
- Sodium chloride solution (0.9%)
- 4″×4″ (10 cm × 10 cm) sterile gauze sponges
- Anesthesia equipment:
  - 5-cc syringe
  - 18-gauge needle for drawing up anesthetic
  - 30-gauge 0.5″ needle for infiltrating skin
- 27-gauge 1.5″ needle for deeper infiltration if required
- Local anesthetic:
  - e.g. 1% or 2% lidocaine hydrochloride with epinephrine (1:100,000)
- Suture set
- Scalpel with #11 blade
- Optional:
  - Metzenbaum scissors
  - Tissue retractors
  - Sterile elastic tourniquet
- Dressing materials

Aspiration

1. For local anesthesia over a dorsal wrist ganglion use 1% or 2% Lidocaine Hydrochloride with epinephrine (1:100 000) and a 30-gauge needle.
2. Remove the 30-gauge needle and attach an 18-gauge or 16-gauge needle to a 5-mL syringe.
3. Pierce the anesthetized skin and begin aspiration once through the epidermis skin layer (Fig. 1). Appearance of a thick, gelatinous, clear material confirms placement of the needle within the ganglion.
4. After fluid ceases to come back into the syringe,



Fig. 1. Aspiration of wrist ganglion.

pull out the needle, apply pressure until bleeding stops and cover with antibiotic ointment.

Surgical excision

1. Make a transverse incision over top of the ganglion.[9]
2. Dissect down to the ganglion capsule.
3. Slice through the ganglion capsule with the scalpel blade and squeeze out most of the clear gelatinous contents.
4. Grasp the ganglion capsule with hemostats, lift up, dissect around the rest of the ganglion.
5. Identify the "neck" where the ganglion arises from the radial–carpal or ulnar–carpal joint. Be aware that sometimes the neck may be at either end of the capsule, and not necessarily midline and directly under the initial skin incision site.
6. Ligate the neck with a 4–0 undyed absorbable suture (e.g., 4–0 Vicryl) and then excise the ganglion.
7. The entire ganglion should be removed, including the smooth joint capsule and all attachments to the joint capsule or ligaments.
8. Close up the wound as per any laceration. Consider closing the wound with an absorbable suture in children.

Wound care

1. Re-cleanse the wound area with saline-soaked sterile gauze and then dry off the area with sterile gauze, apply antibiotic ointment (e.g., Polytopic [Polymyxin B, Bacitracin] or Bactroban [mupirocin 2%]), and cover with a simple dressing and adhesive bandage.
2. Advise the patient to elevate the affected area as much as possible for the first 24 to 48 hours.
3. Remind the patient about the risk of infection and ask him or her to return if signs of infection arise — erythema, discharge, pain and swelling.
4. The patient should change the dressing daily and apply topical antibiotic ointment with each dressing change.
5. Nonsteroidal anti-inflammatory (NSAID) medication is usually all that is required for analgesia.
6. A routine follow-up appointment is recommended in 2 weeks to remove sutures and observe wound healing.

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