Ganglion Cysts Arising in Unusual Locations*

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Ganglion cysts are common tumefactions,[3, 7] usually encountered in adulthood, the appearance of which may or may not be precipitated by trauma. These growths usually present themselves on the dorsal or volar aspect of the wrist, the palm, or near a distal interphalangeal joint. Less commonly they arise about the dorsum of the foot, and occasionally near the knee joint. Isolated case reports verify the fact that in rare circumstances they may be encountered elsewhere.

In spite of extensive study and voluminous reports in the literature, the true etiology of ganglion cysts remains obscure. Some think that the cyst forms as a result of metaplasia of specialized periarticular connective tissue, and that the process begins as a solid tumefaction with later small cyst formation which progresses to the formation of larger cysts by disappearance of intercystic septa. Others maintain that these growths arise from synovial rests in the developing periarticular tissues. In the past there have been many proponents of the theory that the process represents a herniation of the synovial lining of a tendon sheath or joint capsule. At present, this postulate has lost much of its attractiveness, as many now feel that joint communication results from a degenerative process of the periarticular tissues. Myxomatous degeneration of certain fibrous tissue structures as dermis and aponeurosis has also been advanced to explain the genesis of these cysts.

There are likewise diversified opinions as to the treatment of these cystic structures.[8] The majority of surgeons, perhaps, advocate a meticulous dissection with excision of the entire cyst, performed under general or somatic nerve block anesthesia. Others report a diminished rate of recurrence with roentgen ray therapy,[6, 9, 10] while some prefer simple office procedures as aspiration of the cystic contents followed by a pressure dressing. Other methods, entailing the introduction of sclerosing solutions, or the passing of a non-absorbable suture through the cyst wall, depend upon the resulting inflammatory reaction to obliterate the cystic cavity.

Although these cysts are commonly encountered in the anatomic sites enumerated above, they nevertheless can theoretically occur in diversified areas of the body wherever periarticular connective tissue is found. Haslam[4] mentions a case in which the tumefaction presented at the ankle and subtaler joints. A careful search of the literature failed to identify a previously reported ganglion similar in location. Levine[5] described a ganglion arising from the anterior cruciate ligament, and was also able to find two similar reports in the German and Scandinavian literature. Gruber[2] encountered a case involving the shoulder joint, and recently Cook[1] has reported a ganglion attached to the capsule of the right hip joint which he felt represented the first recorded case of a ganglion in that particular location.

The present report is based upon an unusual experience encompassing a period of six months, during which time the authors encountered a ganglion cyst arising from the right shoulder joint, and another attached to the capsule of the left hip joint.

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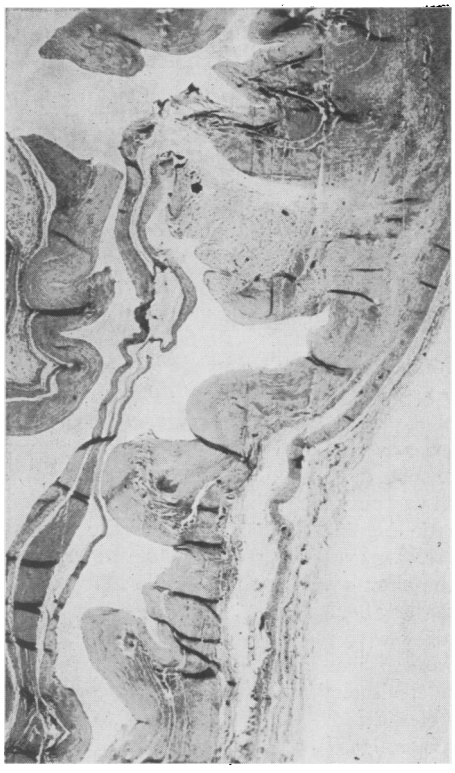

FIG. 1.

No doubt others have encountered ganglion cysts in these and other unusual locations, but have not had an opportunity to record them.

CASE REPORTS

Case 1. Mrs. L. H. J., a 37-year-old housewife, was admitted to the hospital on July 16, 1950, with the complaint of a mass in the right axilla of 2 months' duration. No known trauma precipitated the appearance of the mass, and it was discovered quite by accident. General health had always been good, and the past history and system review were negative.

On examination the patient was found to be a well developed and well nourished female, with positive findings limited to the right axilla. A firm, immovable, non-tender, non-pulsating mass measuring approximately 2 x 2 cm. was felt in this area, no thrill or bruit being present. No abnormality was noted about the right shoulder girdle or right arm. Both breasts were free of palpable masses. Blood studies, urinalysis and serology were not remarkable, and roentgenogram of the chest was negative. The preoperative impression was metastatic disease of the right axilla, possibly of breast origin; however, lymphoma, tuberculosis, Beck's sarcoid and non-specific axillary adenitis were considered.

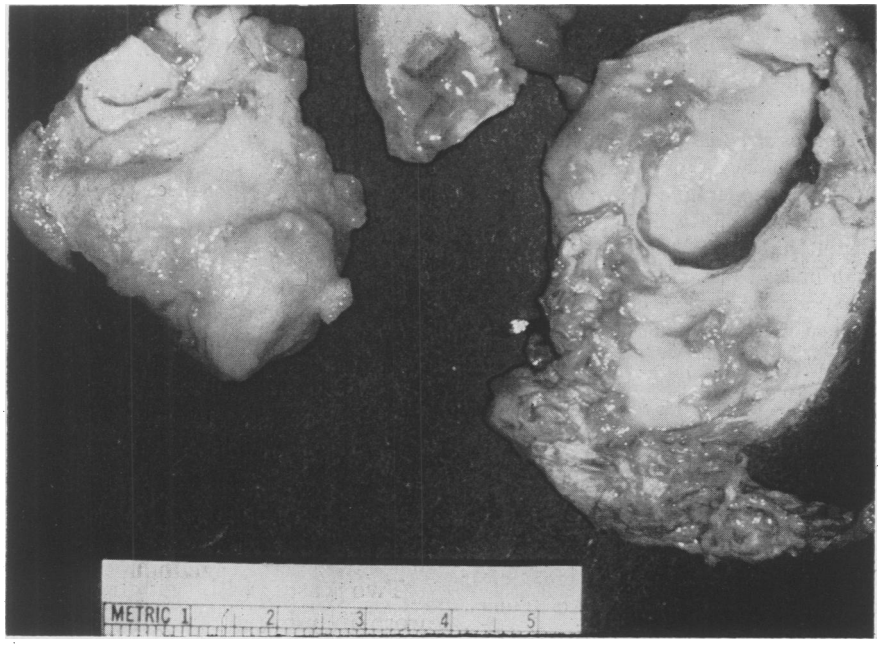

FIG. 2.

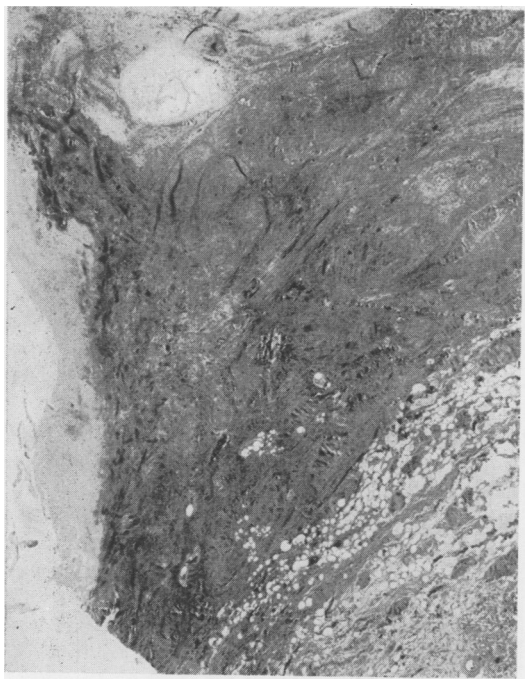

FIG. 3.

Operation. On July 17, 1950, under general anesthesia, the axilla was explored. The axillary vessels were gently retracted upward, and a smooth mass, measuring approximately 2 x 2 cm., was encountered deep to the above structures. On further dissection the mass appeared to be attached to the capsule of the shoulder joint, and it became apparent that the mass represented a ganglion cyst. During the final aspect of extirpation, a small rent occurred in the capsule of the shoulder joint which was closed with interrupted silk sutures. The wound was then closed in layers with interrupted silk, and one penrose drain was placed in the depth of the wound. The postoperative course was normal.

Pathologic Report. The wall of the cyst was smooth and uniform in thickness, and the lumen was filled with mucoid material. The lining of the cyst was absent and the wall was composed microscopically of acellular collagenous connective tissues (Fig. 1).

Postoperative Course. The convalescence was uneventful. There was no limitation of motion about the shoulder joint, and now, after four and one-half years, there has been no evidence of recurrence.

Case 2. L. C., a 62-year-old white male, was admitted to the hospital on January 24, 1951, with the complaint of a mass in the left groin of 5 months' duration. There was no history of trauma, and the mass had slowly increased in size since its detection. General health had otherwise been excellent. There had been no weight loss, but patient had noted increasing difficulty with motion about the left hip.

On examination the patient appeared to be a well developed and well nourished male. There was no evidence of generalized glandular enlargement. The heart and lungs appeared normal, and no abdominal masses or tenderness were noted. In the left inguinal area along the course of Poupart's ligament there was a bulging, smooth, roughly oblong-shaped mass which extended into the upper aspect of the thigh and measured approximately 7 x 4 cm. The mass was quite firm, almost hard, and appeared fixed. There was no change in the appearance of the overlying skin, and the mass did not pulsate. No swelling of the lower thigh or leg was noted, and peripheral arterial pulsations were not diminished. Examination of the right groin was not remarkable except for a small asymptomatic inguinal hernia. Blood counts, urinalysis and serology were not remarkable. A roentgenogram of the chest revealed considerable fibrosis in both upper lung fields, and pelvic roentgenogram showed no disease of the osseous structures. The clinical impression was retro-peritoneal sarcoma or lymphoma, although aneurysm of the femoral artery was considered.

Operation. Patient was operated upon on January 25, 1951, and the left groin was explored, using a long, curved incision, extending from the pubic tubercle almost to the anterior superior spine. Poupart's ligament was divided, the deep fascia of the thigh incised, the femoral vessels retracted medially, and protruding between the iliacus and psoas major muscles was a smooth, oval-shaped mass. Upon further dissection it became apparent that this mass was confluent with the capsule of the hip joint, and represented a ganglion cyst. Following removal of the cyst, the opening in the joint capsule was approximated with silk sutures. The wound was closed in layers.

Pathologic Report. The cyst measured 7 x 4 cm. (Fig. 2), and on cut section the wall was composed of collagenous connective tissue with a few chronic inflammatory cells being present along with several islands of mucinous material. No epithelial lining was noted (Fig. 3).

Postoperative Course. The wound healed without complications, and full range of motion about the hip joint returned. After a follow-up period of almost 4 years, there has been no evidence of recurrence.

SUMMARY

Two cases with ganglion cysts which arose in unusual anatomic locations have been presented.

The differential diagnosis of masses presenting in these areas has been stressed.

Apparently one of these cases is the second recorded case of a ganglion cyst arising from the region of the hip joint to appear in the American surgical literature.

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