



CASE REPORT

EPIDERMAL CYST OF ELBOW: AN UNUSUAL LOCATION

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ABSTRACT

Epidermal inclusion cysts (EIC) are common benign cysts; can be found anywhere in the body. However, EIC of elbow region is rare and it poses a diagnostic challenge clinically due its location and mimicking olecranon bursitis or other lesions at that location. The diagnosis of EIC is confirmed on histopathology with presence of a cyst lined by stratified squamous epithelium and cavity filled with keratin flakes. Here we report a case of epidermal inclusion cyst of right elbow in a 33-year-old male patient.

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INTRODUCTION

Epidermal inclusion cysts are common benign cysts, that arise from keratinizing epithelium in the subcutaneous tissue¹⁻². They are commonly seen in third to fourth decade of life and more often noted in males²⁻³. Clinically, they present as a painless, keratin-filled cystic lesions. The common location of these cysts are face, trunk, extremities and scalp. These cysts do have the potential to form inside bone, but usually seen phalanx with history of trauma³. Elbow is an unusual site for these cystic lesions. The cause can be primary but are usually secondary to an underlying traumatic event where implantation of follicular epithelium takes place into the dermis. Histologically, these are lined by stratified squamous epithelium. Very rarely, these benign lesions can have malignant transformation (0.045%). Herein, we present a case of epidermal cyst in right elbow in a 33-year-old male, which is an unusual location of this common entity.

CASE REPORT

A 33-year-old male presented with swelling in right elbow for last one year. There was history of trauma at the same site one year back.

Initially the swelling was small, and it had gradually increased to its current size (Figure 1). There was no history of any chronic medical illness or surgical intervention. Ultrasound of right elbow region was performed using high resolution linear probe. There was an evidence of a well-defined ovoid heterogeneously echogenic lesion measuring 4 x 2.5 cm with few small hypoechoic areas and linear internal strands in subcutaneous planes with no internal vascularity (Figure 2). Fine needle aspiration was done, and dirty aspirate was obtained. Papanicolaou and Giemsa-stained smears showed sheets of anucleate squames along with few mature squamous cells and occasional polymorphs (Figure 3). No atypical cells were seen in the slides examined. A diagnosis of epidermal inclusion cyst was made and advised for excision. A surgical incision was made directly over the mass and an approximately 3.5 cm × 2 cm cystic structure was excised en bloc, and the adhered fibrous tissue was completely excised. Pultaceous material was seen on cut section of cyst. The entire specimen was sent to for histological analysis. On gross examination, a cystic structure was found, measuring 3.2x2 cm, filled with pultaceous material (Figure 4A). Cut sections showed unilocular, thin-walled cyst. Histopathological examination also confirmed the diagnosis of epidermal cyst with presence of cystic cavity filled with keratin flakes and lined by stratified squamous epithelium (Figure 4B).



Figure 1. A cystic swelling over right elbow region

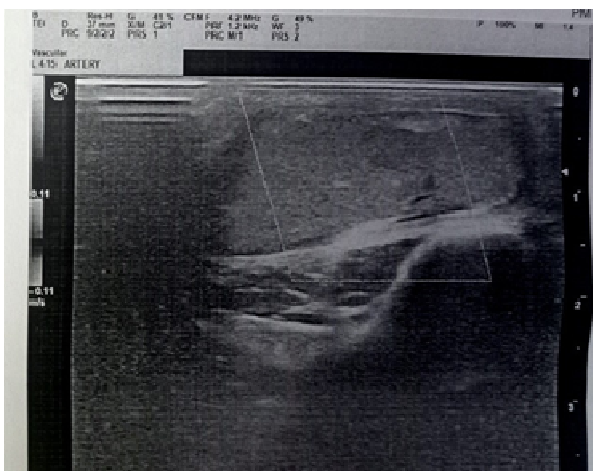
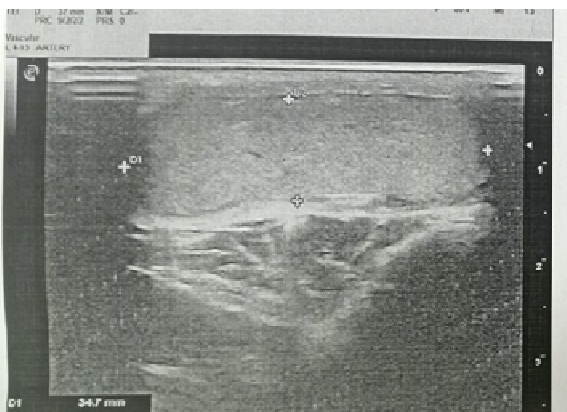


Figure 2. A well-defined, ovoid heterogeneously echogenic lesion measuring 4 x 2.5 cms with linear internal strands.

In our case, no evidence of bursitis or any malignancy was found. The patient was followed up for a period of 3 months and no recurrence was found.

DISCUSSION

Epidermal inclusion cyst (EIC) is a very common benign cystic lesion and can be seen in almost any part of the body¹⁻³. Epidermal inclusion cysts are also known as epidermal cysts, epidermoid cysts, infundibular cysts, and keratin cysts. Clinically, an epidermal inclusion cyst typically appears as a slowly enlarging, mobile, dome-shaped lump, filled with keratin material and located just below the surface of the skin.

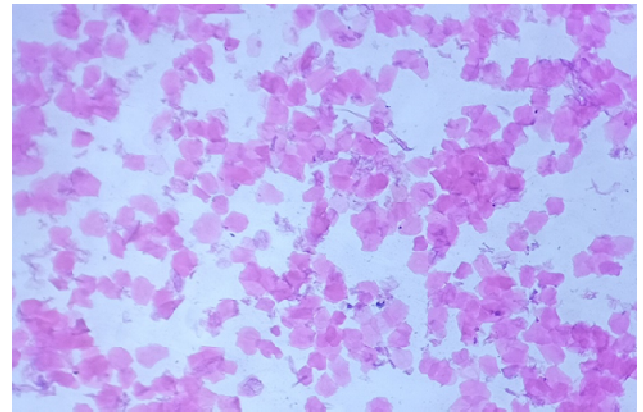


Figure 3. Giemsa-stained smear showing sheets of anucleated squames (Giemsa, 20X)

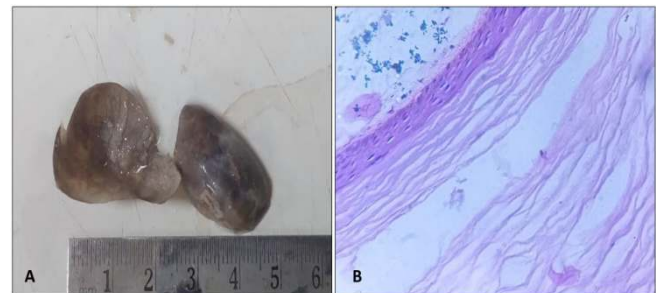


Figure 4. 4A- Gross image of cystic lesion; 4B- Section showing epidermal cyst lined by stratified squamous epithelium and lamellated keratin layer (H&E, 20X)

They can range in size from 0.5 cm to several centimeters²⁻³. Usually, there is a “punctum,” or small dark-colored opening on the surface of the epidermal inclusion cyst, which connects to the cyst located below skin’s surface. Epidermal inclusion cysts are generally considered benign (non-cancerous), although there have been rare cases of malignancy arising within the cyst⁴⁻⁶. They can be located anywhere, but are most common on the face, followed by the chest or back, scalp, neck, legs, arms and/or genitalia. Although they can appear at any age, epidermal inclusion cysts most frequently occur during early to mid-adulthood⁴⁻⁷. Epidermal inclusion cysts rarely appear before puberty. They are more common in males than in females³⁻⁷.

Epidermal inclusion cysts are formed from the follicular infundibulum, when it is disrupted, or when the surface of the skin becomes implanted below the skin through an injury or trauma in the area⁶⁻⁸. Although these cysts are often painless, they can incite an inflammatory process as well as abscess formation, especially if ruptured. On ultrasound, these cysts appear as partial indentations into the dermis, a round to oval structure with a phenomenon of dorsal acoustic amplification & lateral shadowing. On Magnetic resonance imaging (MRI), well-circumscribed margins, slightly high signal intensity after gadolinium points towards diagnosis of EIC⁴⁻⁸. In our case, the location for EIC is unusual. Its location near to olecranon bursa can cause a diagnostic dilemma with bursitis³⁻⁸. It is important to diagnose these two entities, i.e., EIC & bursitis, as these are managed differently. Olecranon bursitis is inflammation of bursal sac where there is synovial fluid, which normally allows frictionless motion between olecranon & overlying soft tissues. Usually, in bursitis, initial management requires aspiration and dressings with medication.

However, in case of EIC this won't be sufficient and surgical excision is the treatment of choice. Complete excision of the true cyst wall is very much required to prevent any kind of recurrence⁵⁻⁸. All excised cysts must be submitted for a detailed histopathological evaluation, as rarely malignant transformation of benign cysts does occur. In our case, the excised cyst showed no evidence of any malignant change. The patient was followed up for 2 months and was doing well without any recurrence.

CONCLUSION

Our case presents an unusual location, i.e., elbow, for a common benign epidermal cyst which can impose a diagnostic challenge with infective lesion like, bursitis at that site. A timely and correct surgical intervention is required in case of epidermal inclusion cyst. Additionally, a detailed histopathological is essential in ruling out any possibility of malignant transformation in these cysts.

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