Case 13085

Pilonidal cyst: ultrasonographic findings
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Section: Musculoskeletal system
Area of Interest: Soft tissues / Skin
Procedure: Diagnostic procedure
Imaging Technique: Ultrasound
Imaging Technique: Ultrasound-Power Doppler
Special Focus: Infection Case Type: Clinical Cases
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Patient: 20 years, male

Clinical History:

The patient presented to the emergency department with pain in the intergluteal region. Clinical examination revealed a lump with drainage of purulent material. Medical history was unremarkable. The patient mentioned working in a computer company.

Imaging Findings:

An ultrasound was requested to evaluate the lump and define its exact margins. Ultrasound revealed the presence of a 31-mm-long and 7-mm-wide, relatively well-defined and oval shaped hypoechoic area extending to the dermis and hypodermis, which was consistent with an abscess cavity. (Fig. 1) There were some hyperechoic lines within this hypoechoic area, which represented hair tract fragments. (Fig. 1, 2) Power Doppler technique demonstrated increased blood flow signals at the periphery of the cavity, a finding which was consistent with inflammation of the cyst. (Fig. 2) Moreover, there was an enlarged hair follicle identified in the periphery of the lesion. (Fig. 3) These findings were consistent with an inflamed pilonidal cyst.

Discussion:

Pilonidal cysts (PC) are usually found in the intergluteal region of young males and are generally associated with chronic trauma and the condition known as “Jeep disease”. [1] The term pilonidal sinus disease is rather old as it was introduced in 1833 by Mayo. [2] They are considered to originate from hair penetrating the skin or dilated follicular ostia. From a histological point of view, they consist of a cavity lined with stratified squamous epithelium containing a nest of hair fragments and a combination of granulomatous and inflammatory tissue.[1] Factors predisposing to PC include continuous friction of the skin as in truck drivers, excessive body hair, obesity or long hours of sitting during work. [3] The interdigital region can be also rarely affected by PC. [4] PC usually become symptomatic when they become infected and an abscess is formed. This abscess is clinically evident due to the superficial drainage of pus. [1]

Ultrasonography is useful to evaluate PC, which appear as pseudocystic anechoic or hypoechoic lesions, oval in shape and situated in the dermis and hypodermis. Hyperechoic lines can occasionally be detected within this hypoechoic area. These lines represent hair-tract fragments and can be seen attached to regional hair follicles which may be enlarged. Posterior acoustic enhancement may also be identified in the gray-scale technique. Colour or Power Doppler technique should be used to assess the vascularity of a PC, which can be increased in the periphery of an inflamed PC. Even if clinical diagnosis of a PC is relatively easy, ultrasonography is essential in
order to accurately address questions regarding the cyst's extent, the existence of multiple branches and the cyst's orientation. PC may be oriented in a transverse, longitudinal or an oblique plane and may have more than one superficial opening. Knowledge of such information is crucial for correct surgical planning and proper treatment. [1, 3, 4, 5] The importance of ultrasonographic assessment of PC before surgery was also shown by Mentes et al. in a recent study, where ultrasonographically detected margins of a PC differed from clinically detected in more than 20% of patients. Surgeons thus altered surgical planning based on ultrasound. Palpation and injection of methylene blue are the main alternatives of clinical evaluation of the sinus’ borders. [2]

Surgery is the treatment of choice for PC including ellipsoidal excision and primary closure for small PC, whereas secondary healing is chosen in larger sinuses. The main problem concerning PC is the recurrence after surgery. [2]

**Differential Diagnosis List:** Pilonidal cyst, Pilonidal cyst, Fistula in ano

**Final Diagnosis:** Pilonidal cyst

**References:**

Wortsman X. (2013) Ultrasound in dermatology: why, how, and when?. Semin Ultrasound CT MR 34:177-95. (PMID: [23768885](#))


**Figure 1**

_Description:_ Longitudinal ultrasound showing the hypoechoic elongated lesion situated in the dermis and hypodermis. Note the hyperechoic lines within this area representing hair fragments (arrowhead) and the attachment of the lesion to the skin surface (arrow). _Origin:_ Rafailidis D. Gennimatas Hospital, Thessaloniki.
Figure 2

Description: This image identifies mild hypaeremia in the periphery of the sinus. Origin: Rafailidis D. Gennimatas Hospital, Thessaloniki.
Description: This image demonstrates hypaeremia in the periphery of the sinus and an enlarged hair follicle (arrowhead). Origin: Rafailidis D. Gennimatas Hospital, Thessaloniki.