TREATMENT OF PILONIDAL SINUS.

ESSAY SUBMITTED IN PARTIAL FULLFILEMENT

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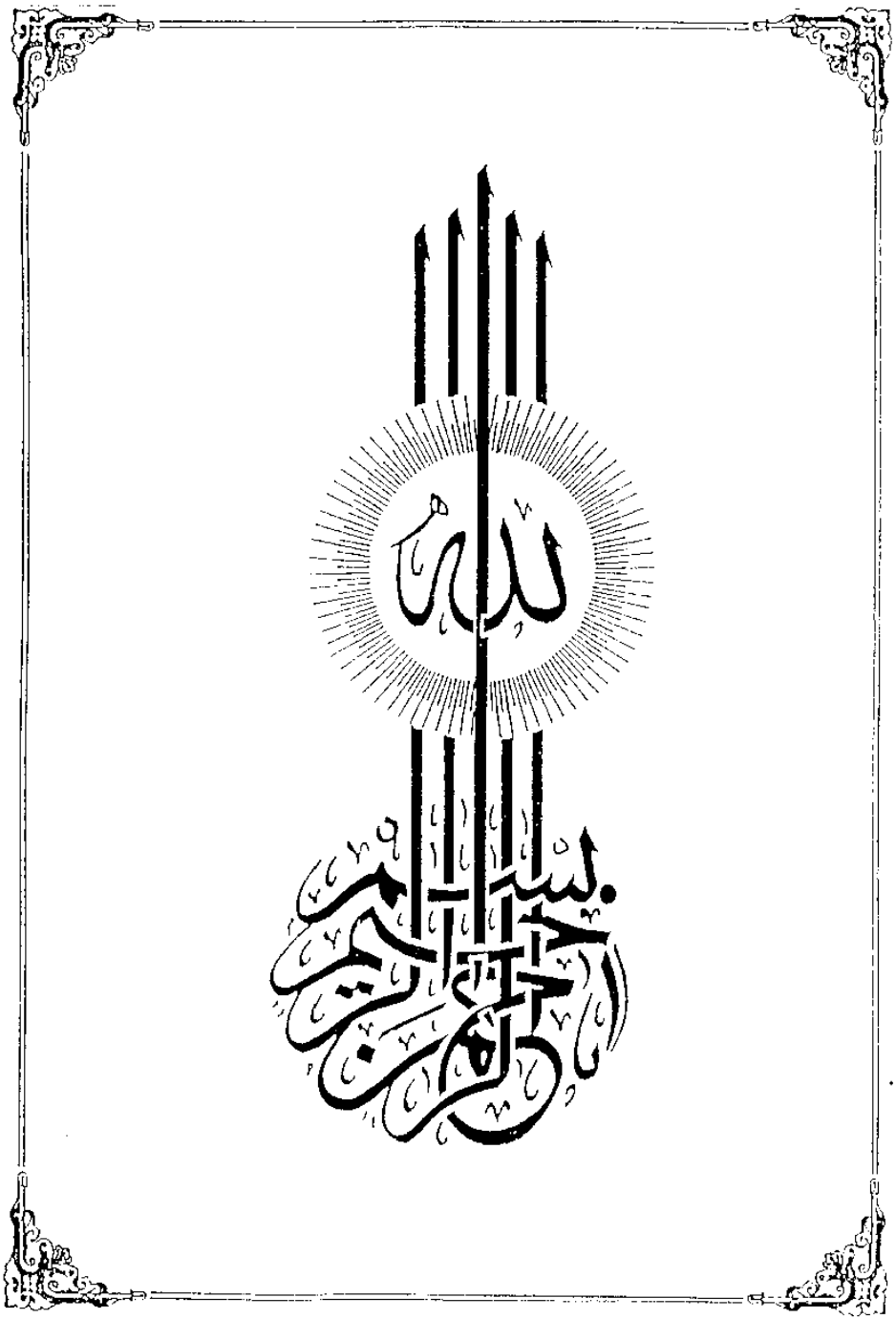

Treatment of Pilonidal Sinus.

Contents:

Introduction

In 1880 Hodges coined the term " Pilonidal sinus" to describe the chronic sinus, containing hair and found between the buttocks (Pilus=hair nidus=nest).

He thought the basis of the condition was a congenital coccygeal dimple in which detached body hair and debris lodged. Of its more usual form, P.S. is situated a short distance behind the anus and generally contains hair and lined with stratified squamous epithelium. However, this term is now used to describe any subcutaneous track which cantains hair or some of its microscopic fragments.

In 1833 Herbert Mayo persented a case of young woman with a hair-containing sinus in the sacracoccygeal region.

A.W. A nderson, in 1847 described a case report entitled "Hair extracted from an ulcer."

In 1854 I.M. Warren described incising a draining sacrococcygeal sinus and extracting a hair ball from it. In 1877, he described another 3 similar cases and he thought the condition apparently derived from the ingrowth of hair or hairs from a single follicle.

The second world war served to make the physician more aware of this disease. Of its commoner synonyms " jeep seat disease " was given to it by the american soldiers during the last world war, amongst whom it had reached almost epidemic prevailance; 77000 cases being admitted to the united states army hospitals.

This led them to think of driving the jeep as a cause. The true aetiology has long been debated.

It was agreed by many authors to arise upon a congenital basis. However, the recognition of P.S. in other sites as in the interdigital cleft of barbers made the acquired theory come into view and is the one most acceptable nowadays.

Incidence.

Kooistra (1942) studied 350 cases and found that the average age of onset of symptoms is 21½ years, and that few cases are under 17 years. He found also that there were a great increase to a maximum at 19 years, continuing high to 25 years and steeply decline thereafter. There were 73.7% males. Women were found affected at a slightly earlier age; 40% had symptoms before the age of 20 years, as compared with only 19% of men.

The findings of Richard A. Raffman (1959) & Davage (1954) were neerly equal to those of Kooistra. Kooistra (1942) reported that the disease is rare in Negroes. However Harold &Douglas (1968) stated that this is not true.

The disease is virtually unknown among the american indians. It is more in the miditerranean areas. It is extremely rare among the chinese living in New York city.

Surgical Anatomy

When considering the anatomic factors inherent in the location of P.S., the function of that area and its effect upon primary healing of a surgical wound at it, much of the complications met with after surgry; namely delayed healing and recurence can be avoided.

Between the origin of the glutei muscles on either side there is a relatively flat plateau where the aponeurosis of the sacrospinalis and the extension of the lumbosacral fascia overlie the posterior aspect of both the sacrum and cocyx. This area is relatively triangular with its apex pointing towards the anus and its base spreading superiorlly, the buttocks and this intervening plateau from the cleft between the buttocks. The blood supply of the skin and subcutaneous tissues on the dorsum of the sacrum and coccyx comes upwards on either side from coccygeal

branches of the inferior gluteal artery and the superior and inferior branches of the lateral sacral arteries.

The skin with adequate subcutaneous padding droops down off the mounds of the buttocks and crosses flately across the plateau and then upward across the buttock on the other side. In thin people this plateau of skin following the contour of the underlying supporting structures is readily seen. In havier individuals with heavy buttocks the skin appears heapd up rather than flat, but the contour of the underlying structures is the same.

The tension lines of the skin covering this long plateau between buttocks run of as if a flap of skin had been laid down from above which meets a flap of skin brought up from below so that between the two the plateau is covered. The skin over the buttocks joins the skin over the plateau at the insertion of the glutei muscles and is continuous with it.

The function of the area is weight bearing. when a person sits upright, the points of greatest pressure are the two ischeal tuberosities and the skin just posterior to the auns and that across the coccyx is placed under considerable tension and pulls the skin into a straight line between the two ischeal tuberosities and tends to pull it away from the subcutaneaus structures.

When a person sits with his thighs more acutely flexed on the trunk as when riding the low-seated jeep or when sitting with arms around the kness, the coccyx, especially at the sacro-coccygeal joint becomes a direct point of weight bearing along with the tuberosities, and the skin over the lower one third of the sacrum and all the coccygeal region is under great lateral tension and direct bruising pressure.

In surgery, to avoid delayed healing, the normal relation of the skin over the flat plateau to that of the buttock must be preserved by re-establishment of the normal depth of the cleft between the buttocks and

Pathology

Sacrococygeal P.S. Consists of an acute or chronic inflammation of a localized area having these features:

(1) The primary track: This is the main feature and may be lined with stratified squamous epithelium. It extends into the subcutaneous tissues in a headward direction for 2 to 5 cm. However xome writers describe it as being from 1 to 15 cm in length. It has a small opening which usually lies in the midline about 3.5 to 5 cm posterior to the anal orifice between, and usually concealed by the buttocks. Though Gabriel (1943), Neweel (1933) and Spencer (1967) proved that a considerable part of the track is lined with well-defined squamous lining; the deeper part of the primary track and the expanded sacculations are lined with granulation tissue. Many writers said that

Existance of hair follicles or of sebaceous or sweat glands in the wall of the track is not yet clearly demonstrated. Patey and Scraff (1946) could not find any dermal appendages but Spencer (1967) found hair follicles in many of his specimens.

(3) Secondary tracks: the secondary track connects the deep part of the primary track to a sinus opening lying at one side of the midline posteriorly. They are always lined with granulation tissue. These openings have a different appearance from that of the midline one of the primary track in that they are marked by an elevation of granulation tissue partly covered by thin epithelium. They extend laterally and may be bilateral but some may be found to extend in a cephalad direction or accasionally caudally towards the anus.

Malignant change in P.S. :

Matt (1958) reported a case of mixed basal and squamous cell carcinoma in a P.S. and later on he discovered 8 other cases. Another case of squamous cell carcinoma was reported by Goodal (1961).

Bacteriology

Examination of bacterial components of infected P.S. in 385 cases had showed Staph. aureus in 173 cases (Hamilton, et al 1963). Other less commonly encountered organisms were beta-haemolytic & non-haemolytic strept. Coliforms and other aerobic enteric bacteria (Goswitz 1965). Harold and Douglas (1965) examined 45 cases and found bacteroids in 33 cases (73%). Bacteroids were found in most cases associated with Staph. Albus & sometimes both with other bacteria. Non-haemolytic strept., some strictly anaerobic wers often found. Anaerobic diphtheroids were sometimes part of the flora of infected P.S. As bacteroids constitute 98% of viable faecal bacteria, they together with other bacteria are expected to be those causing infection in P.S.

Antimicrobials seem to offer little in the management of P.S. when infected and spontaneous or surgical drainge is a must. However, they are indicated if bacteramia accurs which is manifested by fever & chills.