MANAGEMENT OF PILONIDAL SINUS

ESSAY

Submitted in Partial Fulfilment for

The Master Degree of General Surgery

BY

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M.B; B.Ch. (ASSIUT)

Supervised By

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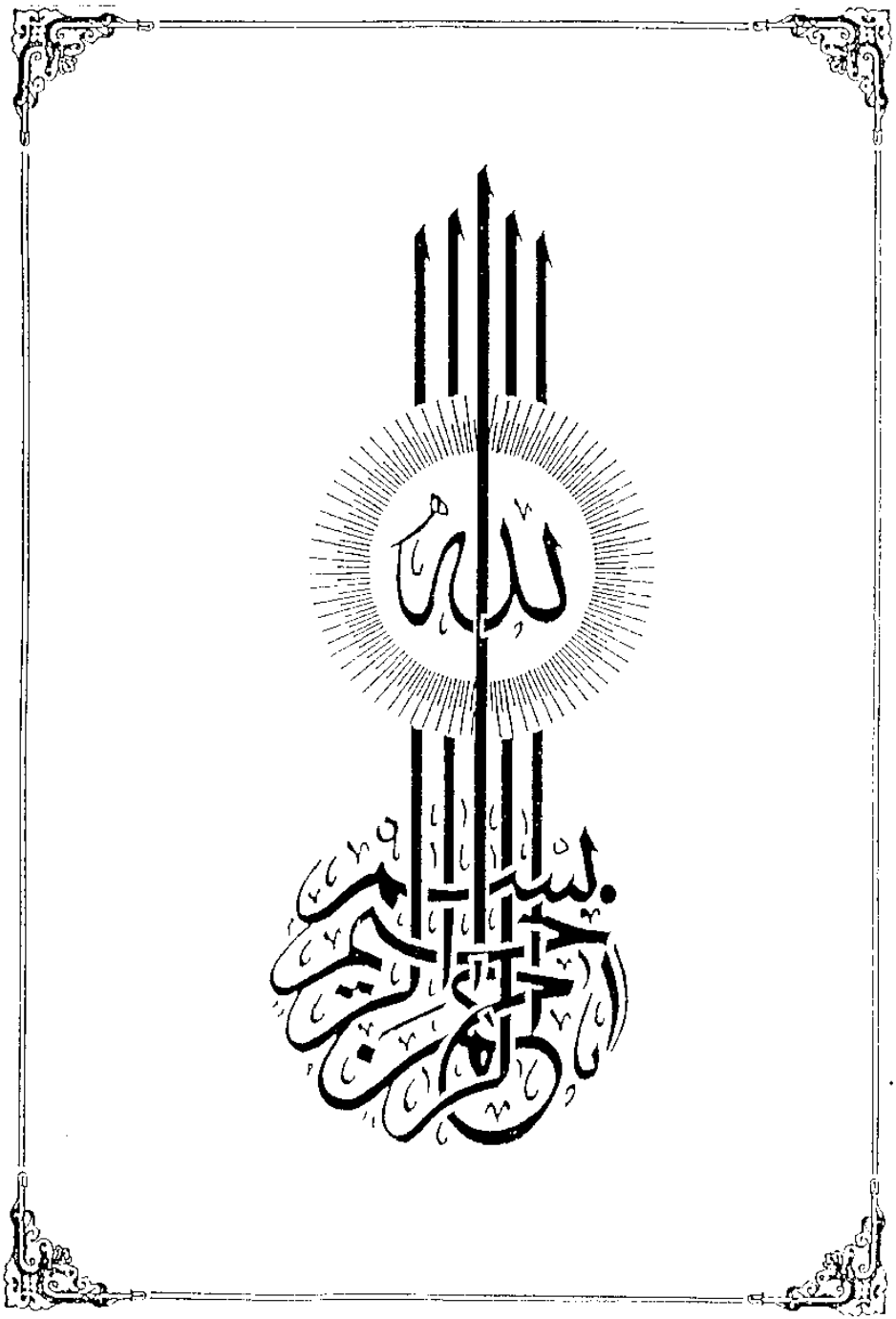

بسم الله الرحمن الرحيم

TO MY MOTHER

AND THE MEMORY OF MY FATHER

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The Credit of bringing this Essay to light goes to Professor Dr. **SHAMEL ABDALLA ALI**, Prof. of General Surgery, Ain-Shams University. He has always been a father and advisor as a senior supervisor and provided me an invaluable guidance and encouragement.

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The responsibility of any errors that remain is, of course, entirely mine.

Samir Abbady Mohamed Ali.

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A pilonidal sinus is a cavity in the subcutaneous tissues which is lined by granulation tissue , generally contains hair and communicates with the surface by a track which is usually lined by squamous epithelium continous with the epidermis. The usual site for a pilonidal sinus is in the midline between the buttocks about 5 cm. behind the anus. This is referred to as post-anal Pilonidal sinus. Pilonidal sinus can also occur on other sites than the usual common post-anal region e.g. axilla, umbilicus, perineum and finger web (Hueston, 1953).

Post-anal pilonidal sinus was first described by Anderson (1847) in a paper entitled 'Hair extracted from an ulcer'. He also described a successful treatment of this condition by simple incision and extraction of the hairs from its cavity. Hodges (1880) reported a similar condition and coined the term 'Pilonidal sinus disease', since hairs were a common finding in the sinuses of patients with this lesion. (Sinus = hollow, Pilus = hair, Nidus = nest).

Kooistra (1942) brought out the main facts in the natural history of the disease in a collective review of 350 cases.

Post-anal pilonidal sinus disease was formerly thought to be a congenital lesion, but it now seems more likely that it is an acquired lesion due to penetration of the skin by hairs (Gage and Dutta, 1977).

Post-anal pilonidal sinus disease appears to be a relatively superficial and simple condition yet it presents a considerable problem in management due to its persistent tendency to recur. However, many procedures have been described for its treatment, each with advantages and disadvantages.

AETIOLOGY

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Pilonidal sinus disease is caused by multiple factors which present difficulty to be proved individually. However, two main theories were involved in its causation, the congenital and the acquired one (Zimmerman, 1984).

The Congenital Theories

There are four theories which have been advanced to explain the congenital origin of the disease.

The preen gland theory

Stone (1931) discovered the presence of the preen glands of birds. As it is a sort of crypt situated near the anus, he suggested that pilonidal sinuses might be vestigal preen glands. However, he produced no evidence or logical argument in favour of this highly imaginative theory which should not be further considered (Goligher, 1980).

The medullary canal vestige theory

Mallory (1892) and Rogers (1933) believed that caudal remnants of the medullary canal persisted in the sacrococcygeal region and developed into a pilonidal cyst which would rupture and give rise to a sinus. Kooistra (1942) drew the same conclusion from his embryological studies. He

also demonstrated that these cysts were lined by cuboidal epithelium.

This hypothesis was confirmed by Gage (1935). He reported some cases in which the sinus was present from birth, with an opening in the skin of the sacrococcygeal region, and a track extended down between the sacrum and coccyx, and along the sacral canal, to become continuous with the central canal of the spinal cord, and discharged cerebrospinal fluid from it.

However, Raffman(1959) and Goligher (1980) found that Gage's cases were different from Post-anal pilonidal sinuses in being extremely rare, present since birth and usually opened at a higher level than the ordinary post-anal pilonidal sinuses generally in the upper sacral region. They also found that these cases were definitely connected with the spinal theca and discharged cerebrospinal fluid from it, with a great risk of meningitis and a high rate of death. They concluded that Gage's cases were entirely a different condition as it did not seem reasonable to link up what is a rare and dangerous congenital defect with a relatively common and not dangerous condition such as a pilonidal sinus. However, Haworth and Zachary (1955) considered these lesions as juvenile versions of pilonidal sinuses.

Moreover, Brearley (1955) reported that the epithelial lining of the cystic remnants of the medullary canal were cuboidal epithelium while that of pilonidal sinuses were stratified squamous epithelium He also reported that the epithelium of coccygeal medullary vestige was already so far differentiated that if it persisted into extra-uterine life it could not be expected to give rise to stratified squamous epithelium.

The traction dermoid theory

Newell (1933) postulated that the tail bud was attached to the skin of the sacrococcygeal region in the midline and that during development, due to retrogression of the bud, the skin was drawn into the subcutaneous tissues in a cephalad direction to form a sinus which was present at birth and might become deeper due to further traction as the child growed. He also beleived that the condition remained symptomless till infection occurred, leading to abscess formation. It also led to destruction of some of the epithelial lining and the development of a secondary sinus track.

Haworth and Zachary (1955) surveyed 500 children attending the Scheffield Children's Hospital and found that 1.4 percent had a sinus overlying the coccyx and 2.8 percent had deep dimples in the same region.

However, the data provided by Raffman (1959) were totally different from these results. He reviewed the past histories of 187 adult patients with pilonidal sinuses and reported that no pilonidal sinus had been found prior to the appearance of symptoms, although each patient had had a previous complete examination at different medical centres. Raffman (1959) also reported that the incidence of epithelial lining of the pilonidal sinuses increased with the age, with the duration of symptoms and with the severity of infection (Fig. 1, 2, 3).

On the other hand Goligher (1980) beleived that this theory was not true because congenital dimples or sinuses were not frequent in infants and children.

The inclusion dermoid theory

Bland-Sutton (1922) suggested that pilonidal sinuses of the sacrococcygeal region were sequestration dermoids but produced no evidence in favour of this