CHRONIC ANAL FISSURE

ESSAY

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in General Surgery

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بسم الله الرحمن الرحيم

(يريد الله أن يخفف عنكم وخلق الانسان ضعيفاً)

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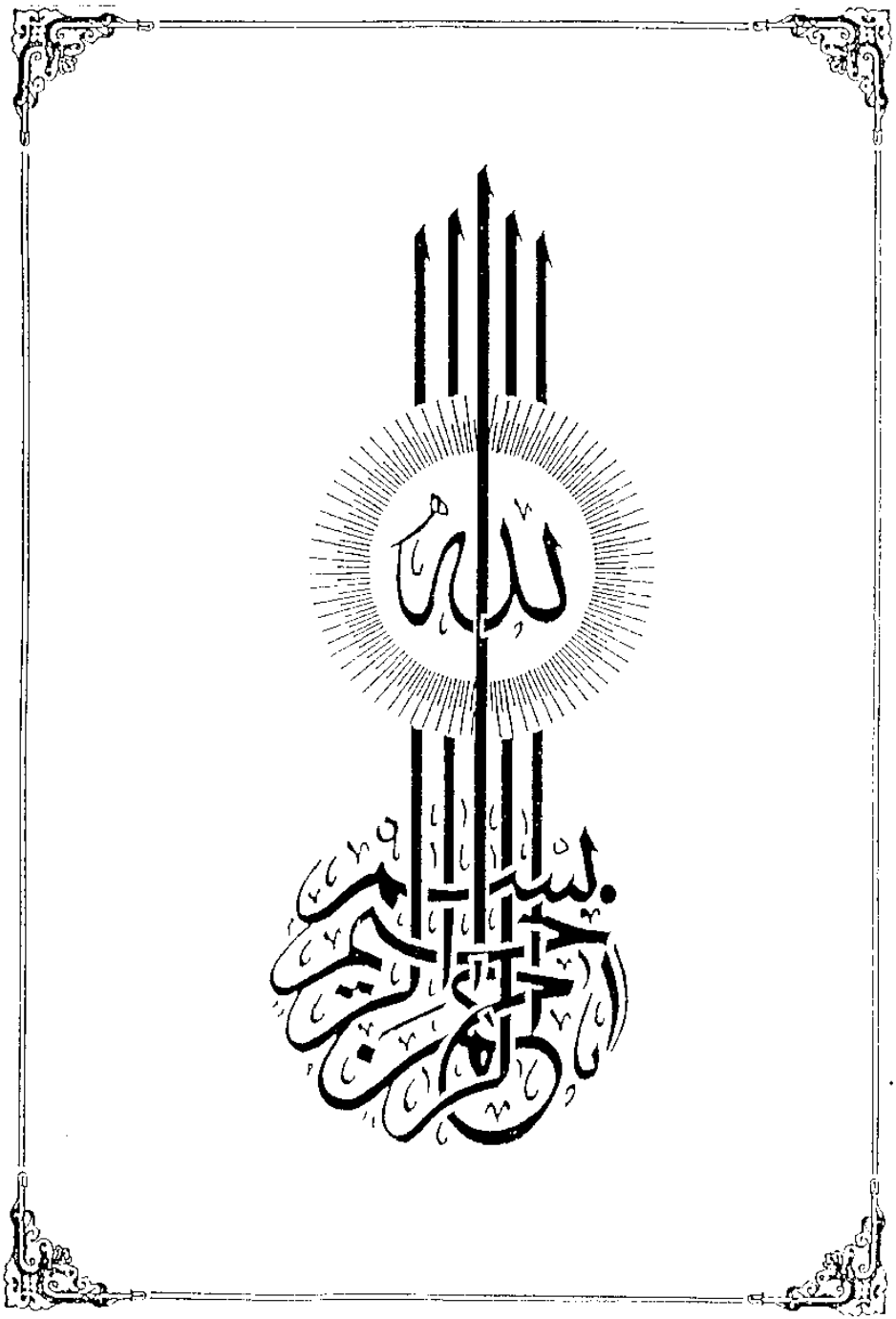
« صدق الله العظيم »



A C K N O W L E D G E M E N T

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C O N T E N T S

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INTRODUCTION

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Chronic anal fissure is a common proctologic problem hat necessitates proper treatment otherwise complications an occur and can be of great nuisance to the patient . n anal fissure is a crack in the skin lined part of the nal canal . It is exquisitely painful condition, the ma- ority occurs in the midline posteriorly, some 20% occurs nteriorly in females, but only I% in males (J.E.L. Sales, 980) .

Chronic anal fissure is a common condition, which often hows a considerable reluctance to heal and it represents he most frequent cause of painful bleeding per anus. It s frequently mistaken by the patient to represents aemorrhoids (Mazier et al , I978) .

Acute anal fissure can be cured by conservative treat- ent , but chronic anal fissure requires surgical interv- ntion . A variety of operations has been devised empiri- ally to treat anal fissure, however more understanding of he pathophysiology is needed for rational treatment . It s often said that anal fissure is associated with high nal pressure due to spasm of anal sphincter(Kuyper's, .C., I983) .

In this essay our aim is to fulfill the different lines of urgical treatment of chronic anal fissure so that a proper ne can be chosen by a surgeon according to the situation

f each case of chronic anal fissure.

The aim of surgical treatment is to achieve relaxation f internal anal sphincter. Anal stretching leads to emporary relaxation of internal and external anal sphinter giving a chance for the healing of the fissure.

Fissurectomy and midline sphincterotomy has been the ost popular procedure during the last two decades . owever, since the introduction of subcutaneus lateral nternal anal sphincterotomy by Notaras, I97I, this rocedure has been used increasingly over the last decade ithout concomitant fissurectomy .

Also in this essay we throw spotlights on the embryo- ogy , anatomy and physiology of anal canal, then we dis- uss the pathogenesis, complications, clinical picture, iagnosis and differential diagnosis beside the lines of reatement .

EMBRYOLOGY

EMBRYOLOGY OF ANAL CANAL

The cloacá is the blind caudal expansion of the hind-
ut (Fig.I) . It is in contact ventrally with the ecto-
erm to form the temporary cloacal membrane.

The allantois and hindgut open into it . The uororе-
tal septum is present in the angle between the allantois
nd the hind-gut in a 5 mm . embryo . It grows gradually
wards the cloacal membrane dividing the cloaca into the
ectum and upper part of anal canal dorsally , and the
rimitive urogenital sinus ventrally (Fig,I) (Warwick and
illiams,I973).

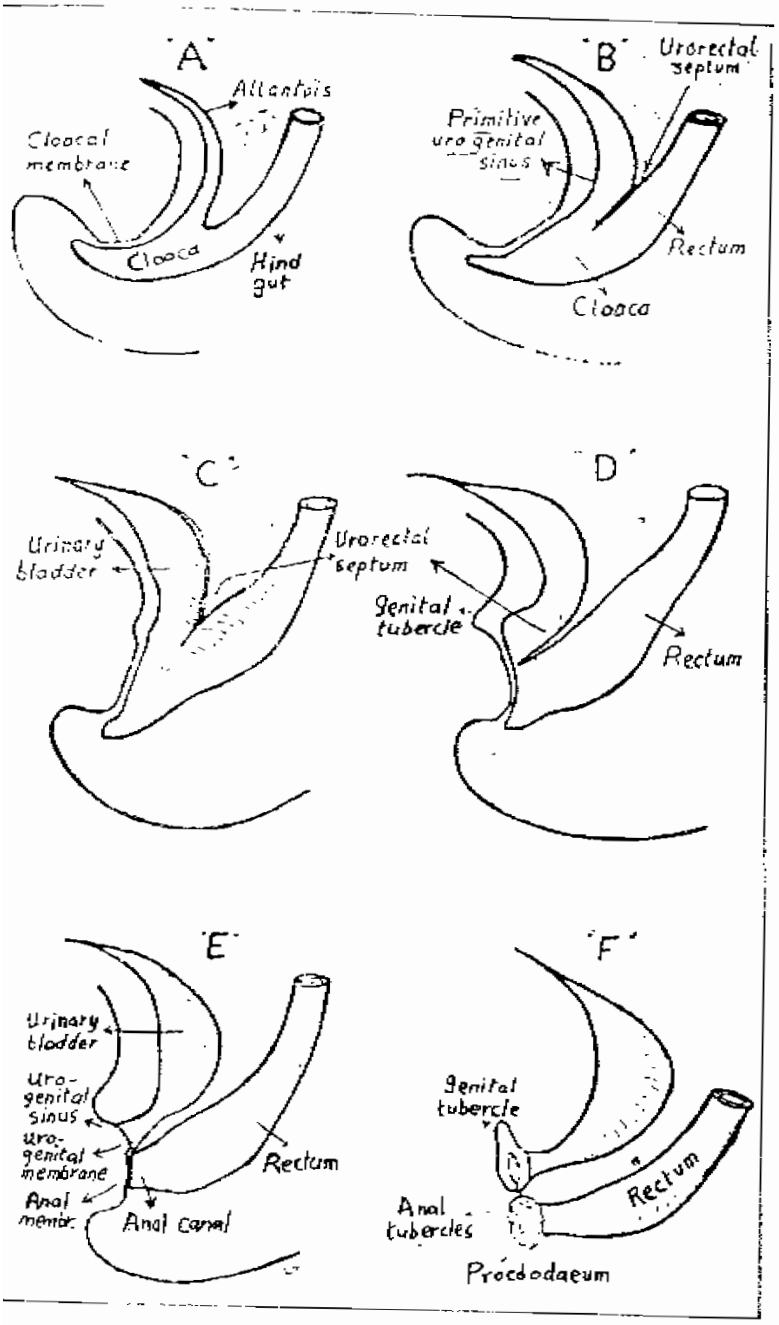
Rupture of the cloacal membrane occurs when the division
s completed (during the seventh week).
he urorectal septum reachs the cloacal membrane and fuses
ith it in embryo of about, I6 mm. length, dividing it into
nal membrane behined and urogenital membrane infront .
he area of fusion is the primitive perineum (Warwick and
illiams,I973) .

The mesoderm around the external margin of the anal
embrane praliferates . Anal tubercles or hillocks are
ormed producing an ectodermal depression called the proc-
odaeum at the depth of which is found the anal membrane
Tench, I936) .

The anal membrane disintegrates in the third month and thus the lumen of the rectum is continuous with the proctodaeum i.e exterior . Imperforate anus results from failure of disappearance of the anal membrane (Warwick and Williams, I973) .

The upper part of the anal canal develops from the distal end of the dorsal part of the cloaca and therefore is endodermal in origin . Its lower part develops from the proctodaeum i.e it is ectodermal in origin and is lined by stratified squamous epithelium . The anal valves (its edges) and the Hilton's white line represents the line of fusion between the two parts of anal canal (Fig.I) (Mahran et al , I970) .

Accordingly the following differences exsist between the upper and the lower halves of the anal canal,the upper part is endodermal in origin, lined by mucus membrane, insensitive to pain as it is inervated by autonomic nerves, drains its venous blood via the superior haemorrhoidal vein to the portal venous system and drains its lymph to the lumber lymph nodes i.e with the lymph drainage of the rectum . The lower part is ectodermal in origin, lined by modified skin, very sensitive to pain as it is supplied by somatic nerves containing sensory fibres , drains its venous blood via the inferior haemorrhoidal vein into the



ig. 1 Diagrams illustrating stages of development of rectum and anal canal. (From Mahran et al 1970).

ystemic venous system and drains its lymph to the uperficial inquinal lymph nodes (Griffiths, I96I).

Fissure in ano is very painful because it involves he lower sensitive part of the anal canal (Warwick and illiams , I973) .

ANATOMY