ACUTE APPENDICITIS WITH STUDY OF344 CONSECUTIVE CASES

THESIS

SUBMITTED IN PARTIAL FULFILLMENT FOR
THE DEGREE
OF M.S. SURGERY
BY.

ABDALLA A. ABDALLA
M.B.B.Ch.

SUPERVISOR

Prof. DR. KAMEL M. SAID

PROF. OF SURGERY.

FACULTY OF MEDICINE - AIN SHAMS UNIVERSITY

1977

Acknowledgement

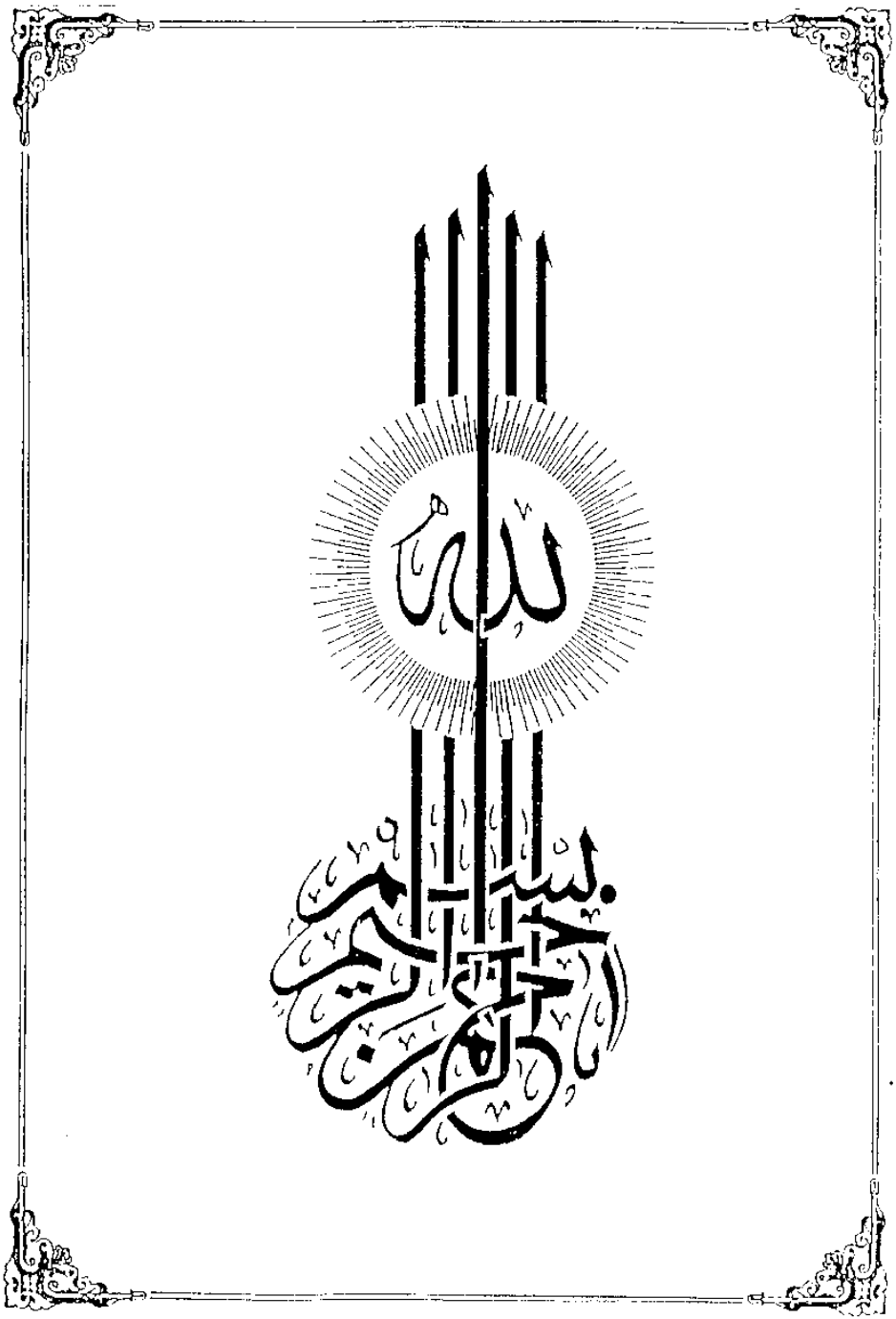
It was by the continuous guidance of prof. Dr. Kamel M. Said, Prof. of General surgery Ain Shams University that this work has come to light.

Prof. Dr. Said had put the plan for this work and had been very generous in time and effort.

The candidate owes him deep gratitude and respect for his fatherly care , specific planning and scientific criticism.

He had followed closely the progress of this research with never failing intrest, facilitating many of the problems which had arisen.

...



INTRODUCTION

It is doubtless to say that out of all emorgencies met with in surgical practice acute appendicitis. Will remain to be the most common emergency met with .

A case suspected to be acute appendicitis must not be dealt with reluctantly for comptications though rare might prove grave and endanger the patients life.

On the other hand suspicion of acute appendicitis will remain dependant mainly on the first doctor who sees the patient that is the house officer or general practioner .

It was due to these facts that I found myself compelled to choose this subject in particular.

This thesis is divided into two parts, the first part is directed to the description of the surgical anatomy , Pathology , diagnosis and Management of acute appendicitis . Special emphasis was made in the chapters dealing with the diagnosis and management, which I hope in this paper will prove effecient and up to the required standard. I must mention here that recent methods of diagnosis dependant on immunological and enzymatic studies have been omitted for they are only of academic interest

and any time last in such investigations may prove auite valuable.

I have made use of many references dealing with the subject, these I have listed below each page in order not to interrupt the sequence of the subject.

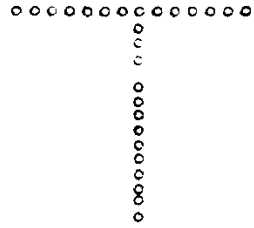
In the second part of this thesis I have attempted to make an analysis of 344 consecutive cases of acute appendicitis. My results have been tabulated. and graphic studies done. The results have been compared to other results by previous authors.

I scincerly hope that my humble efforts if not adding something new ., may clarify and throw more light on the subject .

C O N T E N T S

Part I.

Acute Appendicites : Etiology , Pathology Clinical Picture , Differential Diagnosis and Management.



I. Historical Introduction

Inflamation and perforation of the appendix. can be reffered back as early as the days of ancient egyptians. Many statements have been found in the " Hermetic Books of Thoth" and " Books" of the dead" referring to the appendix.

Fitz of Harvard 1886 discussed : " Perforating inflammation of the Vermiform appendix with special reference to it's early diagnosis and treatment" and stated, ... "It seems preferable to use the term appendicitis to express the primary condition" . He concluded "The vital importance of early recognition of perforating appendicitis is unmistakable, it's diagnosis in most cases is comparatively easy. and it's eventual treatment by laparatomy is generally indispensable" .

Fitz's report was the change of the pendulum to the proper knowledge of appendicular disease. However, mention of the appendix in anatomical literature was not before 1552 by Professor Carpus , he described it as a certain additamentum at the end of the caecum. This was followed by others , and the literature gave sporadic reports of cases which seem to be acute appendicites, but entirely without scientific proof.

In 1759, Mestivier recorded what is generally considered to be the first clinical instance of acute appendicitis in the medical literature, but the earliest experimental, observations on the subject were made by Leiberkuhn 1739.

Following these, different names should appear with mention of acute appendicitis, Charles Mcburney, in 1888 published at least one paper a year on the subject, and is remembered to day for his point of great tenderness, and the grid-iron incision. Murphy and Oschner independently and at the same time (1904) suggested a plan for the treatment of spreading peritonitis and now known as the Oschner-Sherren treatment. John Murphy and Lord Moyniham are Landmarks in the modern history of the disease for their vigorous campaigns for prompt surgery in acute appendicitis, and for the withdrawal of purgatives. (After Boyce. 1949)(1).

==========

(1) Boyce f.f. : Acute appendicitis and it's complications Oxford University. 1959.

II. SURGICAL ANATOMY OF THE VERMIFORM APPENDIX

The appendix is a blind tube with a narrow lumen attached to the posteromedial wall of the caecum, 2 cms. or less below the end of the ilium, the appendix varies from 2 cms to 20 cms. in lengh , the average being 9 cms.(1) It is longer in the child than in the adult, and may atrophy and become smaller after mid adult life.

The three taenia coli of the ascending colon and caecum converge on the base of the appendix , where they merge into the longitudinal muscular layer. The anterior taenia of the caecum is usually distinct and can be traced to the root of the appendix.

Position of Appendix:

There is only one constant finding and that is the almost inevitable attachement of its base to the caecum at a point between the ileo-caecal valve and the apex of the caecum. This point is usually just medial to the apex of the caecum, and half an inch to an inch and half from the ileo-caecal junction. The point of attachment of the appendix is almost invariably found by tracing

(1) Gray's Anatomy : Descriptive and applied: Longmans (1972)

down the anterior taenia band of the caecum. This point of attachment or base of the appendix is opposite the juction of the lateral and middle thirds of the line joining anterior superior iliac spine to the umbilicus (MC-Burney's $P_o$int) The frequency of the retrocaecal position is related to the fact that the caput caeci tends to point slightly posteriorly. In the peritoneal cavity the position of the appendix must depend on the position of the caecum. Incomplete descent of the caecum must give a high position to the appendix . If the appendix occupies a relatively normal position undoubtedly the retro-ceacal position of the appendix is the most frequent 74%. The next most frequent position is pelvic 21%. Rarer situations are paracaecal 2 % , subcaecal 1.5% , preileal 1 % and post-ileal 0.5 %(1).

The average length of the appendix is about three inches but a few have been recorded over ten inches long. Although an appendix arising from a normally placed caecum it's inflamed tip may lie any where within the peritoneal cavity. An abnormally mobile caecum may carry the appendix to almost any corner in the abdominal cavity.

==========

(1) Baily and Love: Short Practice of Sergery .

The canal of the appendix comunicates with the caecum by an orifice below and behind the iliocaecal opening , and normally when the lumen is patent the flow of intestinal contents enters the appendix and goes back to the caecum, this orifice is sometimes gaurded by a semilunar valve formed by a fold of mucous membrane (described by Gerlach (1847)) .

The appendix is connected by a short mesentry (The meso-appendix) to the lower part of the mesentry of the ilium this fold runs along the entire lenght of the appendix , and in the majority of cases is triangular.

The artery to the appendix , a branch of the lower division of the ilio-colic artery runs behind the terminal part of the ilium and enters the mesoappendix, a short distance from the base of the appendix, the terminal part of the artery being actually on the wall of the appendix.

The appendicular vein on the other hand is a tributary of the ilio-colic vein draining ultimately to the portal system.

As for lymphatic drainage of the appendix, the submucosa is very rich in lymphoid tissue making it very susceptible to inflammation and giving it the name the

tonsil of the abdomen About fifteen lymph vessels or so, arise from the tip, converging into three or four vesdels and ultimately ending in the upper lymph nodes of the ilio-solic chain.

Minute anatomy " Histology "

The appendix has a similar structure to the colon. The mucosal Layer is lined by columnar cells producing mucous, the crypts of liberkuhn are present and the submucosa is heavily laden with lymph follicles. The muscularis mucosa is recognisable and in the adjacent submucosa may be detected the earliest changes of inflammation the circular and longitudenal muscle layer are invested by peritoneum. Two - thirds of the thickness of the wall of a normal appendix are made up of submucosa and mucosa. The healthy appendix varies in diameter from 5 mm to 1 cm.

In the children the base is wider than the distal part of the organ.

Gerlach in 1847 discribed a " valve " in the form of a fold of mucous membrane lying at the mucosal junction of appendix and caecum. It is possible that this appearance is due to angulation of the mucosa at the

Lower lip of the orifice and it is doubtful if the structure influences function or the development of disease .

Congenital Anomalies :

Although very rare , yet have been recorded

1. Congenital Agnesia : Robinson[1] favoured intra - uterine regression of an initially differentiated appendix, to persistence of an anomalous embryonal condition.

2. Duplication (Appendix duplex) : Cave (1936) attributed this to persistance of the caeco - appendicular dilatation and appearance of the transient appendix of Kelly & Hurdon. Waught (1941)[2] on the other hand further described this anomaly, where he quoted that there may be 2 distinct appendices with fusion of the bases or tips , the 2 having 2 common or seperate musculature , or very rarely duplication of the caecum

==========

(1) J.O. Robinson (1952) Brit. J.S. Vol 39 No. 156.

(2) J.R. Waught (1940) Arch. S. 42, I.

each having a seperate appendix may be seen.

b. Left sided appendix this may occur as a part of Situs inversus totalis where there is complete transposition of thoracic and abdominal viscera, in such cases the appendix is situated on the left.

+++++