CO-RELATION BETWEEN SYMPTOMS AND SIGNS OF APPENDICITIS WITH OPERATIVE FINDING AND POST OPERATIVE WOUND INFECTION

THESIS

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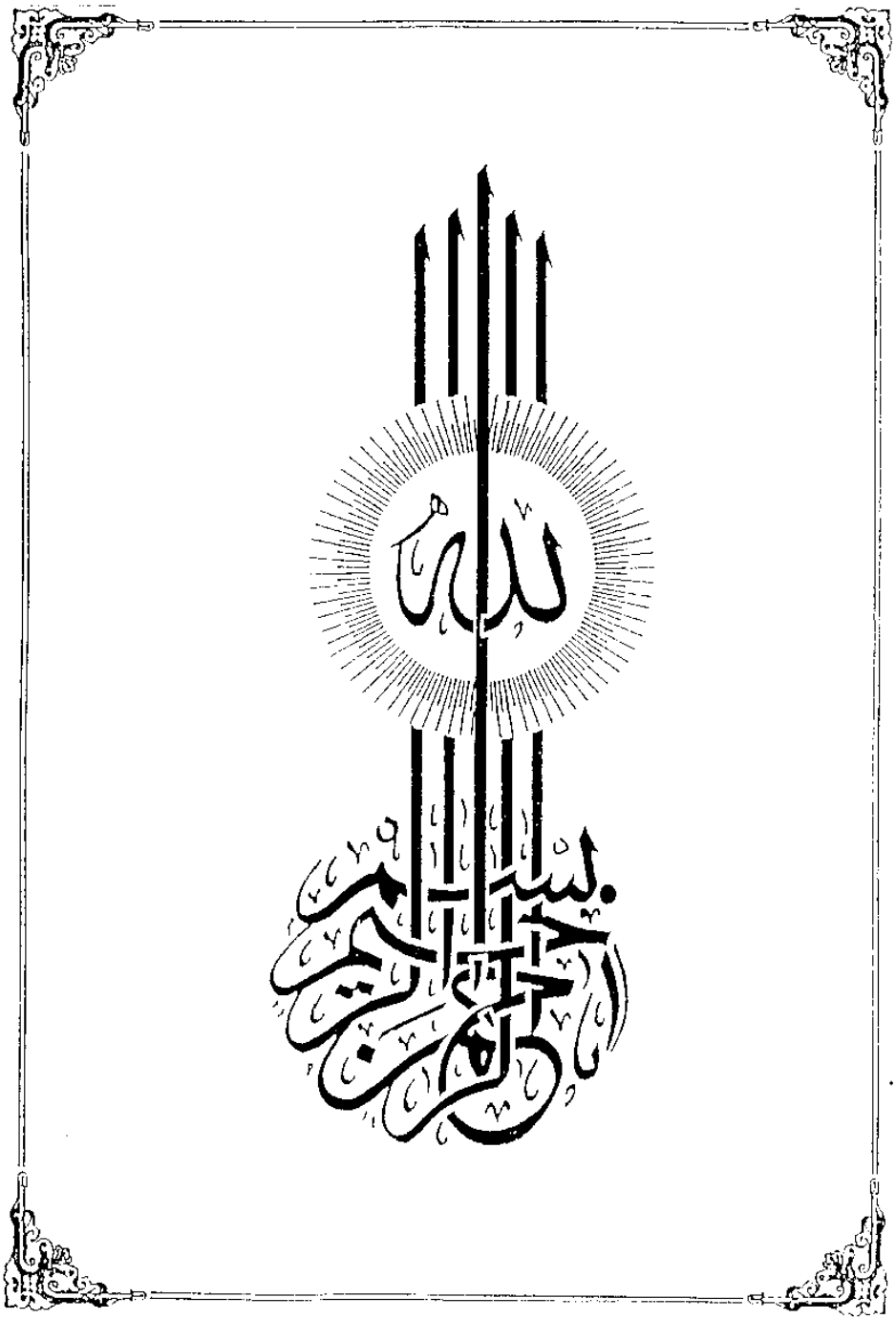

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HISTORICAL INTRODUCTION

Inflammation and perforation of the appendix can be refered 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 verniform appendix with special reference to its early diagnosis and treatment and stated. It seems prefenable to use the term appendicitis to express the primary condition "He concluded the vital importance of early recognition of perforating appendicitis is unmistaken its diagnosis in most cases in comparatively easy, and its 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 appendicitis but entirely without sciantific proof.

In 1759 Mestivier recorded what is generally considered to be 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 independtly and at the same time (1904) suggested a plain for the treatment of spreading pritonitis and now known as the Oschner-shennen treatment.

John Murphy and Lord Moynihem 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).

• Boyce F.F. Acute appendicitis and its complications Oxford University 1951.

ANATOMY OF THE CAECUM AND VERMIFORM PROCESS

The caecum (intestinum caecum) is a cul-de-sac and together with the vermiform process forms the first part of the large intestine. It is defined as that part of the situated caudal to the level of the enterance of the ileum. Its diameter is about 7.5 cm and its length about 6 cm there is usually a more or less well-marked constriction of the colon opposite the ileocecal orifice marking the boundary between the caecum and ascending colon. The caecum itself also sometimes presents a constriction deviding it into two sacculations.

The vermiform process (appendix) extend from the coudal part of the caecum.

In the cadaver, the caecum usually lies in the right iliac fossa adjacent to the abdominal wall, upon the iliopsoas muscle, and so placed that its apex or caudal almost point is just projecting beyond the medial border of that muscle.

It is usually entirely enveloped in peritoneum, projecting freely into the abdominal cavity, but is more or less adherent dorsally in about 10% of all cases.

The apex of the caecum usually corresponds to a point a little to the medial side of the middle of the inguinal ligament. Less frequently the caecum will be found to be in relation with the iliacus muscle only; or the bulk of it will lie upon that muscle, while the apex rests upon the posas. The caecum is markedly variable in form. The variations in the form of the caecum may be described under four types as was first done by traves.

1. The fetal type is conical in shape, the vermiform appendix arising from the apex and forming a continuation of the long axis of the colon.
The three taeniae (muscular bands) that meet at the appendix are nearly at equal distances a part when the caecum is empty and contracted it tends to approach this type.

2. The second form is more quadrilateral in shape than the last the three taeniae retain their relative positions, the appendix appears between two bulging succuli, instead of at the summit of a cone.

3. The third type is the usual caecum found in this form, thus part of the caecum lying lateral to taenia libera (Anterior band) grows out of proportion to that part medial to the band. The ventral wall becomes more developed than the dorsal, so that the apex is turned so much medially and

dorsally that it nearly meets the ileocaecal junction, a false apex is formed by the highly developed part lateral to the taenia libera.

4. In the fourth type the development of the part lateral to the taenia libera is excessive, while the segment medial to the band has atrophied.
In this form the taenia libera runs to the caudal angle of junction of the ileum with the caecum. The root of the appendix appears to spring almost from the ileocaecal junction. The ileocaecal valve (valvula coli) is situated at the opening of the ileum into the large intestine, that is, at the cranial border of the caecum, on the dorsal aspect and towards the medial side in the cadaver, the valve usually lies nearly opposite the middle of a line from the right anterior superior iliac spine to the umbilicus, but often more caudal ward. As it entirs the ileum passes cranially and laverally and terminates obliquely.

The valve is formed by two lips like folds of the coecal wall projecting into the large intestine, the cranial or sperior lip (labium sperius) and the caudal or inferior lip (labium inferius) the superior lip projects further than the inferior, being on an average 1.5 and 0.5 cm in hight, respectively (Buirge) they are nearly transverse in position. The opening between them takes the form of a narrow transverse slit about 1.2 cm in length.

The diameter of the opening was found by Buirge to be greater than 1.5 cm in 30 percent.

At the ends of the slit the lips unite and prolonged at each and as a ridge, the frendum (frenulum valvulae coli). partially surrounding the intestine.

The segments of the frenula that divide and are reflected into the lips are designated as arches by Buirge. He states that anatomic conditions in keeping with the classical description are present in only about 50 percent of cases and describes many variations.

The vermiform process (appendix):

Attached to what was originally the apex of the caecum is a narrow, blind tube, the vermiform process (processus vermiformis) or appendix. It comes off at a variable distance (usually about 2.5 cm) caudal to the ileocecal valve on the dorsomedial aspect of the cecum, though sometimes from the caudal end of the cecum, or elsewhere on the interior, at the point where it joins the caecum, there is a slight, inconstant valve (valvula processus vermiformis) (valvule of Gerlach) this mucosal fold was found in about 80 percent of 526 cases and to be without muscle fibres by Wangesteen et al. The appendix joins the cecum at the point where the three taenia meet, and the ventral band taenia

libera, forms the best guide to this point. In the adult, the average length of the appendix is between 8-10 cm the extremes being 2 to 25 cm. it is usually greatly twisted and coiled upon itself its direction is frequently caudal wards towards the pelvic cavity.

The vermiform process does not have a true mesentry but usually (in about 90% of cases) is provided with a falciform fold of peritoneum, the meso-appendix((mesenterilum processus vermiformis) that is contineus with the left (dorsal) surface of the mesentry of the ileum this was not originally a part of the primitive dorsal mesentry. In general outline this mesoappendix is triangular. In the adult it does not extend along the whole length of the tube. It is in fact too short for the appendix and it is this that commonly accounts for the twisted condition of the process. Along the free margin of the fold runs the artery of the appendix a branch of the posterior coecal from the ileocolic artery which is a branch of superior mesentric artery.

Relation and position of caecum and vermiform appendix (process):

In usual position of the caecum in the cadaver has been given. In the living persons the caecum is quet variable in its location as determined by radiographic examination. Body poster, respiration, contraction of

abdominal wall and a state of distention of the intestine all effect its position. In many cases, particularly in the upright posture the caecum hangs over the pelvic brim or is lodged entirely within the cavity of the lesser pelvis.

It can also be considerably displaced by manipulation. Dorsally the caecum is in relation with the ileopsoas muscle and the femoral nerve. Ventrally, it may be in contact with the ventral abdominal wall or the greater omentum and coils of the ileum may intervene. Medially lie coils of the ileum and at times the sigmoid colon. The relations of the vermiform process are similar to those of the positions of the caecum with which it is in contact. It is position varies greatly in 5000 cases, Wakely and Gladstone found the appendix postcecal or retrocecal in position in about 64 percent (very high incidence, which is in contrast to other investigations and pelvic or descending in 32%. Most rarely the position was subcecal , preileal, postileal or ectopic. In view of the great mobility of the appendix the percentages given here and in other statistics probably do not have any real significance (De Garis).

According to McBurney the base of the appendix in the adult usually lies almost exactly 2 inches from the anterior superior iliac spine on a line drown from this process through the umbilicus (McBurney's point).