STUDY OF POST-OPERATIVE INCISIONAL HERNIA

THESIS

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By
NABIL DAWOUD MATTA
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Under Supervision of

Prof. Dr. NABIL AHMED ALLOUBA
Professor of General Surgery
Ain Shams University

Dr. REDA MAHMOUD MOUSTAFA
Lecturer of General Surgery
Ain Shams University

Faculty of Medicine
Ain Shams University

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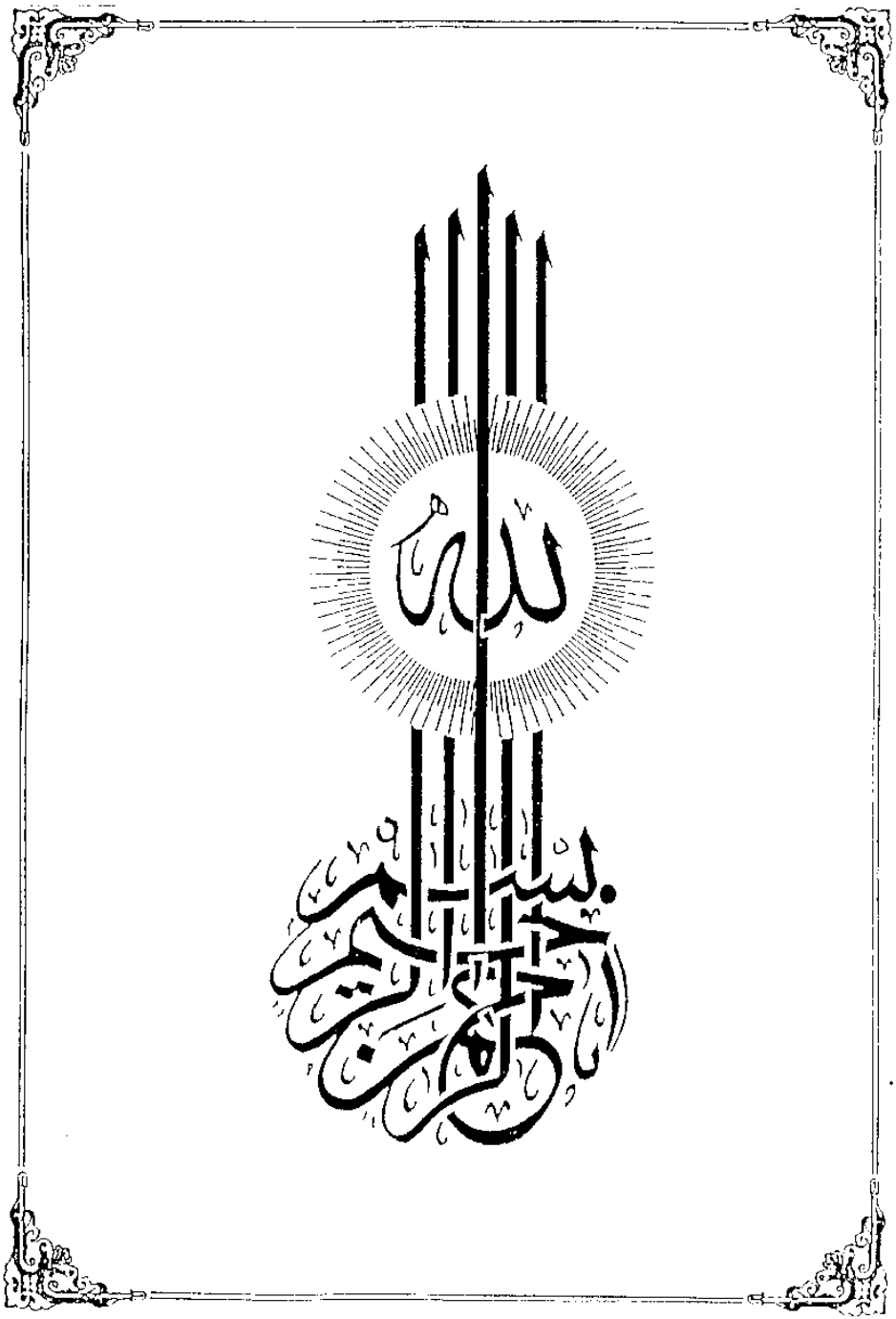

C O N T E N T S

I - INTRODUCTION

I N T R O D U C T I O N

Large abdominal defects of incisional type are those which follow operative or accidental division of the anterior and lateral walls of the abdomen. With the rapid increase in the numbers of abdominal operations, incisional herniae became more frequent. It was difficult to estimate the frequency with which this hernia results in abdominal scars.

Santon (1916) made a study on a series of 500 consecutive laparotomies. He found a post-operative hernia about 4.8 % of the cases.

Another study has been done by Carlucci (1942),on the incidence of post-operative hernia. He made a follow up of a minimum of one year and found the incidence to be 14.3 %. The occurrence of post-operative hernia is generally much higher than believed. This is because many of the patients do not return to the surgeon who performed the original operation. It may be also because some patients are unaware of the presence of the hernia and others prefer to wear supports or girdles rather than to submit themselves to another operation.

Many factors are involved in the development of a large defect following abdominal operations. These factors may be due to a fault in the patient himself or may be due to the nature and technique of the operation and lastly it may be due to accidents occurring in the post-operative.

Proper attention to these factors will lower the incidence of incisional hernia.

The problem of repair of incisional hernia seems to have excited the ambition of many surgeons throughout the history of medicine and it remains an important part in the practice of surgery. Many operations have appeared in the surgical literature and all were attempting a repair for incisional hernia.

The huge abdominal defect of incisional type does not improve spontaneously even by wearing a truss. The tendency is rather to increase in size. However until recent times, it was difficult to relieve by operations the distress of people with incisional hernias. Numerous operative methods have been tried to close these defects but non of them, uptill now, can be considered ideal as recurrence can occur even with the most meticulous

methods. It is well-known that the best chance is the first operation and that recurrence makes the possibilities of success less liable.

II- REVIEW OF THE LITERATURE

REVIEW OF LITERATURE

1) Historical Review :

The abdominal wall is a regular every day victim of any surgical assault made to approach the intra-abdominal viscera.

Ghaliongui, P. and Dowakhli, Z. (1914) stated that the ancient Egyptians may have been the first to open the belly. A left para-median incision was seen on one of the mumies.

However, it is not sure whether it was ante or post-mortem; as they were in the habit of excavating the abdominal viscera from the abdominal cavity to embalm their mummies.

As a result of the increase in the variety and number of abdominal incisions dictated by surgical progress, the incidence of post-operative incisional herniations increased rapidly.

The development of a knowledge of bacteriology and anaesthesia enabled surgeon to enter the peritoneal cavity with increasing safety and, in turn, lead to increased numbers of operative procedures. Advancement in pre and post-operative care made extensive operative procedures

common event.

These accomplishments increased the number of possible operative procedure. Thus contributing to the number of incisional herniae. This, in turn, stimulated the surgeon's interest in the mechanics of incisional hernia formation.

Many incisions were at first designed simply to gain entry into the abdominal cavity. Then surgeon's became aware that certain incisions were followed by disruptions and incisional herniae; and it was soon recognized that vertical midline incisions were the most common site of post-operative incisional herniation. Because of this awareness, more consideration was given to choice of incisions, suture selection, wound closure, and wound healing.

Some incisions are designed only for the sake of a good exposure of the field of the operation, forgetting structures coming in the way of the exposure. The after effects of such bold incisions have never been thought of; this results in deliterious after effects concerning the wound healing, which if any problem arises about, would result in burst abdomen, or its analogus incisional

hernia.

Santon (1916) reported on the incidence of post-operative hernia. He worked on a series of 500 consecutive laparotomies which were traced for 5 to 7 years. He found the incidence of post-operative herniae to be about 4.8 %. Also he found that from 260 clean cases, only 3 cases of incisional hernia developed, where as in 186 operations on infected fields, 18 incisional herniae resulted.

Garlock (1926) made a statistical study on the cases of incisional hernia which follow the Mac Berny's incision for appendicectomy. He found that the incidence was zero when no drain was used, and reached 11 % in drained cases.

King (1935), has shown experimentally that gaps left in the peritoneum through which omentum may penetrate will lead to herniation. He also made a study on the time of onset of incisional hernia. In his series 40% developed immediately after the operation and were recognized within about 4 weeks. Of the total series, he found 75 % of the cases developed during the first year.

John Pollett (1927) made a survey to show the factors which predispose to herniation after an operation for appendicitis and found that these factors are gangrenous appendix, wound sepsis, obesity,age above 40 years and female sex. He stated that more than one factor can be indentified.

Mac Nealy & Lichtenstein (1937) have emphasized the role of the transversalis fascia. In their experiments wide excision of the rectus, external oblique and internal oblique muscles did not result in hernia formation, but when the transversalis fascia was also excised, herniation occurred.

Hunt (1941) & Bourne (1944), stated that avitaminosis especially vitamin "c" is an important factor responsible to share in the production of post-operative hernia.

Elman (1943), proved in his work that hypoproteinaemia is a potent cause of improper healing of wounds.

Grey Turner (1948) reported that the most important factor in the production of incisional hernia is prolonged drainage. He stated that a weak scar is seen as a result of stitch abscess.

Standeven (1955), found that in 18 cases of early wound disruption before the 8th post-operative day,the

catgut had broken in 14 cases and completely disappeared in one.

Kozoll (1950) states that in 50 many statistics concerning the relation of weight to incisional herniae, the patients were over weight. He states the mechanism of this is by the increased intraabdominal tension, it creates and the predisposition to seromas and infection of wounds .

Kozoll (1950) states that catgut sutures can cause allergies and these would aggravate inflammatory exudate within a wound. Also non-absorbale material has almost the same effect . They all acts as foreign bodies. He advises the employment of a single strand of stainless steel which is biologically the least reactive. He also stated that diseases associated with obesity or causing increased intraabdominal tension might be expected to be found with incisional hernia in a higher frequency. Essential hypertension, organic heart disease, diabetes, cirrhosis, constipation were found associated with the lesion. But the incidence of these diseases were in most of the cases associated with obesity a common factor. The author considered obesity as the most important systemic

disorder responsible for the effect.

Zimmerman and Anson (1958) cite the experience of Garlock and Cove who by eliminating the drain in McBurnay appendicectomy wounds reduced the incidence of post-appendicectomy hernia from 13 percent to zero.

Lythgoe (1960) stated that about one third of women, in whom caesarean section was carried out develop incisional hernia.

McVay(1961) stated that the effect of obesity may be a factor increasing the incidence of incisional herniae especially in the older age groups.

Maingot (1961) stated that in sub-umbilical wounds, where the posterior rectus sheath is absent below the semilunar fold of Douglas, it is necessary to suture the peritoneum with meticulous care; to prevent the intension of omental tags bursting through the suture line.

Maingot (1961) stated that prolonged drainage of an intraabdominal abscess is often accompanied by sloughing of some structures of the abdominal wall, either aponeurotic or muscular or both.

Akman (1962) reported about a comprehensive study of a series of 500 cases of incisional hernia, he found