PREPERITONEAL APPROACH FOR SURGICAL TREATMENT OF INGUINAL HERNIA

T H E S I S

PRESENTED FOR PARTIAL FULFILMENT OF
M.D. DEGREE OF SURGERY

BY

MOAMEN SHAFIK ABOU SHALOE

SUPERVISORS

PROF. DR. MAHMOUD NAGUIB
PROFESSOR OF GENERAL SURGERY

PROF. DR. AHMED FAWZY BAHNASY
PROFESSOR OF GENERAL SURGERY

ASSIST. PROF. DR. ABOU BAKR EL SEDEK
ASSISTANT PROFESSOR OF GENERAL SURGERY

FACULTY OF MEDICINE
AIN SHAMS UNIVERSITY

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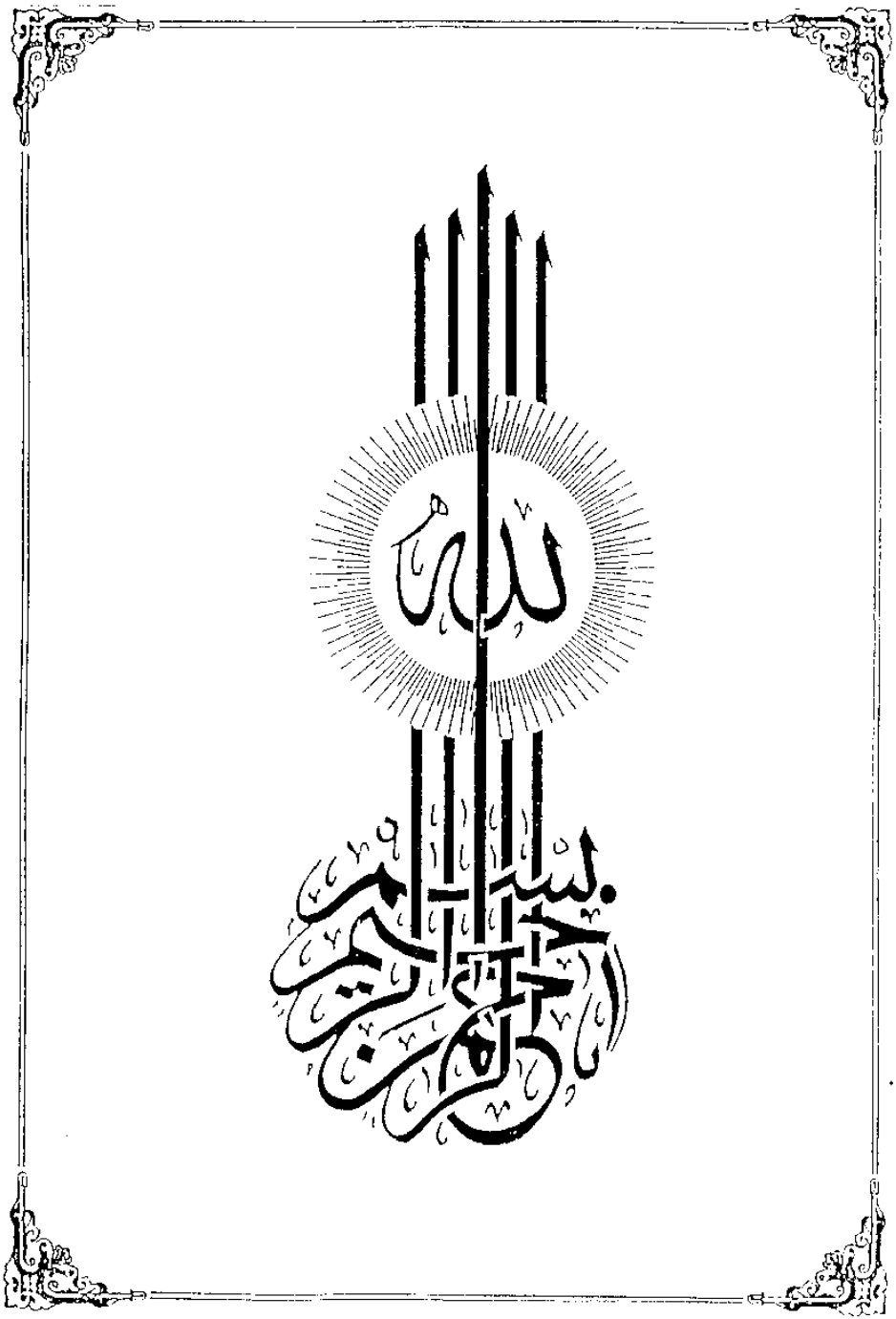

C O N T E N T S

AIM OF WORK

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To evaluate preperitoneal approach in surgical treatment of inguinal hernia from every aspect, including operative finding, feasibility of the approach to gain good access to the posterior wall of inguinal canal, and its repair through approximation of iliopubic tract to transversus aponeurotic arch and to follow up cases during avaliable period.

REVIEW OF LITERATURES

Important Technical Contribution in the Resolution of the Hernia Problem:

" No disease of the human body, belonging to the province of the surgeon require in its treatment a greater combination of accurate anatomical skill than hernia in all its varities".

Knowledge of the anatomy of the hernia, despite its slow progress, made it possible for surgeons to begin using sound principles in the repair of herniaa. Once the various types of hernias were differentiated, logical and effective measures could be taken to correct particular defect.

Use of the Grown or Scrotal Incision for Repair:

Early surgeons generally limited, their incision to the scrotum in the region of the external ring but Celsus, who lived in the first century B.C., made use of the groin or scrotal incision in the hernia repair.

Galen, in the second century A.D, utilized the groin incision and attempted to use suture techniques, as did Celsus earlier.

operative procedures dangerous for every patient, this explains the popularity of Trusses into the twentieth century.

Incision or Opening of the External Oblique Fascia:

Constituted one of the milestones in progress in hernia repair. Some give credit to Marcy for this contribution (1871). Lucas Championniera (1843 - 1913) incised the external oblique fascia in 1881. The great importance of this step requires comment, since this significant detail permitted compelete exposure of the hernial sac and eventually led to proper differentiation of direct hernias . total excision of the peritoneal sac and visualization of the internal ring thus become possible.

Simple Ligation of the Peritoneal Sac:

Was advocated in 1899 by Fergusson, who recommend ligation of the sac at the internal ring without disturbing either the abdominal wall or the cord. Czerny in 1877 and Wood in 1885 resected the peritoneal sac as high as possible, then they closed the pillers of the external ring.

High Ligation of the Peritoneal Sac:

Was practiced by Banks in 1884.

Marcy in 1881, Bassini in 1887 and Halsted in 1890 also ligated the hernial sac at its neck. Herzfeld in 1912 pointed out that the causal factor in congenital hernia is the patent processus vaginalis. High ligation of the sac without disturbing the abdominal wall is adequate treatment to cure such hernias. Potts, Ricker and Lewis later affirmed the same idea.

Use of Cooper Ligament in the Repair of Femoral Hernia:

Was suggested by Cooper himself, but he nerver had the occasion to perform such an operatinn, Ruggi described his operation in 1892, advocating high ligation of the peritoneal sac, and after reading Ruggi's report, there is no doubt that he placed sutures between Cooper's ligament and medial border of Poupart's ligament a technique later proposed by Moschcowitz.

The principal by which Cooper's ligament was used for the repair of groin hernia originated with Lotheissen, but it was Mc Vay who placed this technical advance on a firm anatomic basis and popularized its clinical use

The designation of the procedure as a Mc Vay repair is appropriate.

Closure of the Internal Abdominal Ring:

Was not possible until surgeons had the opportunity to open or incise the external oblique fascia. There is some evidence that Marcy might have first closed the internal ring in 1871. His reports leave room for some uncertainly as to the precise nature of his repair. The technique advocated by Bassini in 1887 and Halsted in 1890 clearly included closure of internal ring.

Combination of Techniques in Hernia Repair:

Is a relatively recent approach, Bassini (1884 - 1924) was an excellent anatomist as well as surgeon. He illustrated his method of repair with such clarity that it was possible for other surgeon to perform his operation essentially, Bassini's method included a combination of these details :-

* high ligation of peritoneal sac.
* repair of floor of inguinal canal.
* displacement of the cord to a position in the front of the reconstructed floor of the inguinal canal resulting from repairing it.

* closure performed from the internal ring to the pubic tubercle.
* closure of the abdominal wall in individual layers. And use of nonabsorbable sutures of silk.

The Preperitoneal Approach to Hernia Repair:

Has been popularized by Nyhus. Although groin hernais have been repaired through abdominal incisions since 1743 (as reported by Meade), the preperitoneal or retroperitoneal approach is relatively recent development.

The following is a breif discussion of those surgeons who used the preperitoneal approach in repairing defects in the inguinofemoral area.

According to Koontz,Tait in 1883 repaired a femoral hernia using an abdominal incision. His definition of structures used in the actual repair was not entirely clear. In 1898 Kelly repaired femoral hernias while performing laparotomies for gynaecologic disorders.

Bates in 1913 reduced the indirect inguinal hernial sac after opening the peritoneum. High ligation of the sac was achieved; then the transversalis fascia was repaired around the internal ring.

Cheatle in 1920 exposed the hernial sac and internal ring using the preperitoneal approach. He practiced high ligation of the sac, closure of the ring was an optional matter with him.

Henry in 1936 advocated this approach for repair of indirect and femoral hernias.

Musgrove and Mc Cready in 1949 and Mikkelson and Berne in 1954 published their significant papers dealing with repair of femoral hernias utilising the preperitoneal approach.

In 1952 Ribe and Mehn, while performing a retropubic prostatectomy, repaired a direct inguinal hernia by suture of transversalis fascia to Cooper's ligament. The credit for bringing the preperitoneal approach for repair of groin hernias to its modern popularity belongs to Nyhus and his coworkers. He has been employing this approach to repair of direct, indirect and femoral hernias since 1955. He has utilised the transversalis fascia and its derivatives in repair of groin hernias. Such structures have been sutured to Cooper's ligament in the repair of direct and femoral hernias.

Transplantation of the Cord:

Displacement of the cord has varied in degree, Bassini in 1887 described his method in which the cord remained under the external oblique aponeurosis but rested upon the newly reconstructed floor of the inguinal canal. In 1890 Halsted described his procedure in which he reduced the size of the cord by excising the cremaster muscle and veins of pampiniform plexus. He then placed this mini-cord in a subcutaneous position, Ferguson in 1890 advised against transplantation of the cord. In fact he sutured the external oblique over the cord after high ligation of peritoneal sac .

Excision of the Cremaster Muscle:

Was advocated by Halsted in 1890. He preserved the vas deferens, blood vessels and one or two veins. As a result of such extensive stripping of the cord, atrophic testicles and hydroceles were fairly common. In spite of these results, some decrease in the size of the cord, particularly in large indirect inguinal hernias seems desirable. This can be achieved with comparative safety by simple excising the hypertrophied cremaster muscle and sparing the veins.

Conversion of the Direct Peritoneal Sac into Indirect Sac:

Is known as the Hoguet maneuver. This sound technique and maneuvers was advocated by Hoguet in 1920, he pointed out that peritoneum may be easily identified at the internal ring and, by means of lateral traction, withdrawn. Lateral to the deep inferior epigastric artery, thus converting direct into indirect peritoneal sac. This method minimize the possibility of bladder injury, since opening into a direct sac through the floor of Hesselbach's triangle might result in injury to the bladder.

Use of Relaxing Incision:

Some type of incision in the anterior sheath of the rectus is necessary if undue tension is to be avoided. Incision in the anterior rectus sheath had been practiced occasionally by many surgeons. Wölfler in 1892, Blood good in 1899, Berger in 1902, Halsted in 1903. Fallis in 1938, Rienhoff in 1940, Tanner in 1942, Mattson in 1946, and Mc Vay in 1962 all incised the lower portion of anterior sheath of the rectus muscle.