

“The Desarda’s Technique”-A No Mesh Tension Free Hernioplasty: A Case Report and Review Literature

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ABSTRACT

Inguinal hernia is one of the most common type of surgical problem around the world. Lichtenstein mesh hernioplasty is regarded as the ideal management of the inguinal hernia (EHS). But due to its high cost & mesh related complications like chronic groin pain, sepsis, rejection, now few surgeons are preferring more biological repair than prosthetic repair. Then the name comes Desarda’s technique. This is a pure tissue repair that resembles the Lichtenstein mesh repair in its simplicity. Unlike Lichtenstein operations which is generally based on anatomical considerations, Desarda’s technique considers both anatomy and surgical physiology of the inguinal canal. Here we report a 48-year male from VIMSAR, Burla, ODISHA, INDIA, presenting with left side obstructed indirect inguinal hernia and undergone hernia repair by Desarda’s technique and his postoperative recovery was uneventful.

Key words: Desarda’s Technique,

Introduction:

Inguinal hernia is a common surgical problem in both OPD clinic as well as in emergency department. For men, there is a 27% lifetime risk to develop inguinal hernia, while in women it remains at 3%¹. Annual Morbidity Rates in Various Countries Vary from 100 To 300 Per 100,000 Citizens². In 1890, for the first time suture repair for inguinal hernia described by Eduardo Bassini followed by Modified Bassini, Shouldice repair and others continued for more than 100 years. In 2009 The European Hernia Society (EHS) published its recommendations based on analysis of the literature and the results of clinical trials. In the EHS Guidelines, mesh-based techniques (Lichtenstein Technique) is recommended for treatment of symptomatic primary

inguinal hernia. Out of all the available procedures, the choice depends on the surgeon; however, the ideal method for modern hernia surgery should be simple, cost effective, safe, tension free and permanent. The Lichtenstein operation to a great extent achieves all these goals.^{3,4} The Lichtenstein mesh, however has its shortcomings which include; its cost, non-availability in the developing country, migration, sepsis, rejection that requires mesh removal⁵ Desarda has described a new method that seems to satisfy the above criteria and does not require a prosthetic mesh and does not use weakened muscles or Transversalis fascia for repair. It is cost effective with low rates of complications.^{6,7} A physiologically dynamic and strong posterior inguinal wall, and the shielding and compression action of the muscles and aponeuroses around the inguinal canal are important factors that prevent hernia formation or hernia recurrence after repair, and Desarda’s no mesh hernioplasty is based on this idea.⁸

Case Report:

A 48 years male presented to the emergency OPD with complaint of a swelling in the left inguinoscrotal region for last 6 years. The swelling increases during coughing and straining and reduces on sleeping or needs manual reduction. For last 2 days the swelling is not reducing and is associated with pain. No h/o abdominal distension, vomiting, constipation. On examination skin over the swelling is normal, size of the swelling was 10cm x 8 cm, smooth, regular, tender, temperature over the swelling is normal, it was non reducible, getting over the swelling is negative. Then the patient is sent for USG abdomen and pelvis and diagnosed to be Obstructed indirect inguinal hernia non gangrenous healthy bowel. He has undergone hernia repair as follows and his postoperative recovery is uneventful.

Operative procedure:

A oblique inguinal incision is given upto the root of the scrotum and the external oblique

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aponeurosis (EOA) is exposed, the glistening fascia over the EOA is preserved. Excluding the thinned out portion, the EOA is divided into upper and lower leaf upto the superficial ring (Fig1), the cord structure along with the hernia content is separated from the inguinal canal, then hernial sac separated from the cord structure, sac is opened, the healthy bowel is reduced, herniotomy done. The medial leaf of the EOA was sutured with the inguinal ligament from the pubic tubercle to the abdominal ring using Prolene 1-0 with CRBN with interrupted sutures (Fig 2). The first two sutures were taken in the anterior rectus sheath where the EOA was fused with it; the last suture was taken to sufficiently narrow the internal ring without constricting the spermatic cord.

A splitting incision was given over the medial leaf 2 cm medial and parallel to the suture line. This splitting incision was extended medially up to the pubic symphysis and laterally 1 to 2 cm beyond the internal ring. A strip of the EOA was now available with the lower border already sutured with the inguinal ligament. The upper free border of the strip of the EOA was now sutured to the internal oblique or conjoint tendon lying close to it with Prolene 1-0 with CRBN (Fig 3). These structures form the new posterior wall of the inguinal canal. Then the spermatic cord was placed in the inguinal canal and the lateral leaf of the EOA was sutured to the newly formed medial leaf of the EOA in front of the cord again using Vicryl 1-0 with CRBN (Fig 4). Subcutaneous tissue and skin are closed by stapler with a PVC drain.

Discussion:

As inguinal hernia is a common surgical problem, there developed a lot of procedure to repair it, starting from suture

Fig - 1 : Medial and lateral leaf of EOA



Fig - 3: Upper free border of EOA



Fig - 2 : Medial leaf of EOA sutured to inguinal ligament



Fig - 4: New medial leaf of EOA sutured to Strip sutured to conjoint tendon lateral leaf of EOA in front of cord



repair (Bassine/Modified Bassine/Shouldice) to mesh repair (Lichtenstein/Meshplasty). Till now Mesh repair is widely used in the developed world and is taken as the gold standard for hernia repair despite of a few clinical trials comparing mesh with suture repair. There are advantages and disadvantages of all type of hernia repair. Nonprosthetic suture repair (Bassine/Modified Bassine/Shouldice) are somehow not preferred as they cannot provide tension free repair so also mesh repair is blamed for its high cost, chronic groin pain, migration, infection, sepsis and rejection. Apart from the economical and infection issue, there is scanty documentation that in long term, mesh repair decreases the male

sexual problem. Again obstructed/strangulated hernia mesh repair is more prone for infection, sepsis and rejection due to lack of sterility.

In this context, Desarda's Tech. to repair inguinal hernia is a novel approach, in which an undetached strip of the external oblique aponeurosis is sutured between the muscle arch and the inguinal ligament to give a strong and physiologically dynamic posterior wall⁸. This results in a tension free repair without the use of any foreign body. Being simple to perform, it also eliminates the disadvantage of technical difficulty seen with Shouldice repair.

Conclusion:

Various study and literature has shown that Desarda's repair

for inguinal hernia give the same or better result when compared with Lichtenstein mesh repair. The duration of surgery is short, recovery is rapid and specific mesh related complication can be avoided. It is technically simpler than the other non-mesh repair like Shouldice repair⁹ and is specifically advised in young individuals and infected conditions where mesh repair is relatively contraindicated.

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Pulmonary Arterial Hypertension (PAHT):

Pulmonary hypertension (PHT) is defined by measurement through right cardiac catheterization of a permanent rise in pressures, equal to or greater than 25 mmHg in the pulmonary arteries. PHT could be precapillary or post-capillary depending on whether a rise in blocked pulmonary capillary pressure exists or not (Pcap). PAHT is a vasculopathy which principally affects the small pulmonary arteries, bringing about PHT and a progressive increase in pulmonary vascular resistance.



CAIS is one of the causes of variation in sexual development (VSD) of type XY (once called 'testicular feminization'). The estimated prevalence is 1 for 20,000 to 64,000 new-borns. This disorder is associated with a mutation which involves the receptor to the androgens on chromosome X. The insensitivity is manifested by a feminine phenotype as well as a feminine psychosexual orientation. On the other hand, girls have a short vaina, scanty hair-growth and an absence of a uterus and ovaries, but they have intra-abdominal testicles. CAIS presents itself in three forms according to the age: uni- or bilateral inguinal hernia during childhood; primary amenorrhea in adolescence or sterility in adults.



Monw

The phenotypes of the 'metabolically obese but normal weight' (MONW) individual and 'metabolically healthy but obese individual' were first described by Ruderman and colleagues in 1981.

MONW individuals constitute a subgroup of normal weight individuals who display impaired insulin sensitivity with a higher risk of developing diabetes, cardiovascular disease and mortality.

It is possible to find an obese person who is not insulin resistant or who presents a nearly perfect compensatory pancreatic α - cell response. On the other hand, even normal-weight individuals develop insulin resistance, type 2 diabetes, and other metabolic disorders.

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