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Preperitoneal Prosthetic Repair (Open Tep) For Inguinal Hernias

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ABSTRACT

Inguinal hernia is repaired by placing a polypropylene mesh in the preperitoneal space . The entire procedure is performed through a small 3-4 cm incision made in the midline above the pubic symphysis. Pre peritoneal space created by simple digital dissection and retraction. Clear visualization of the operative site is maintained throughout the procedure with proper dissection.

MATERIALS AND METHODS :

one hundred inguinal hernia patients including direct ,indirect,and recurrent inguinal hernias operated under spinal/EPIDURAL anaesthesia by placing polypropylene mesh in the preperitoneal space which is created by digital dissection by giving small incision(3-4cm)in the lower midline above the pubic symphysis.

RESULTS: We found open TEP is benifitial in terms of less operative time Direct visualization of anatomy, decreasing the learning curve for laparoscopic TEP, avoiding damage to the nerves and less incidence of seroma hematoma formation and lesser incidence of recurrence.

CONCLUSION: It is an efficient inguinal hernia repair method having all the advantages of stoppas GPRVS and laparoscopic TEP with good cosmosis less cost and better patient compliance.

KEYWORDS : Totally extra peritoneal repair-TEP,Trans abdominal pre peritoneal rapair - TAPP,open TEP,STOPPA'S repair

INTRODUCTION

Anterior repair is the most common operative approach for inguinal hernias. Tension free repairs are now standard and there are a variety of different types. older tissue repairs are rarely indicated except for patients with simultaneous contamination or concomitant bowel resection, when placement of prosthetic mesh is contraindicated.

Anterior approaches have some disadvantages in terms of long operative time ,seroma formation,nerve damage, ischemic orchitis, injury to the vas difference and recurrence for which posterior approaches are emerged. Conventional posterior approaches are stoppas(GPRVS),laparoscopic TEP and TAPP procedures.

The stoppas procedure (GPRVS) is one known procedure of posterior approach for inguinal hernias by wrapping the lower part of the parietal peritoneum with prosthetic mesh used for recurrent and bilateral inguinal hernias but has the disadvantage of big incision extensive tissue dissection.

Laparoscopic TEP and TAPP has long learning curve, costly dissecting balloons,and requirement of general anaesthesia

We used the principles of stoppas and laparoscopic TEP procedures but by giving small incision under spinal anesthesia using digital dissection for creating preperitoneal space.

MATERIALS AND METHODS

This is a study of 100 cases in MGM Hospital Warangal India.surgery was done under spinal anaesthesia.there were 60 U/L inguinal hernias of direct and indierct type,26 b/l inguinal hernias ,14 recurrent inguinal hernias.

INCLUSION CRITERIA: Age more than 18 years with primary and recurrent hernias

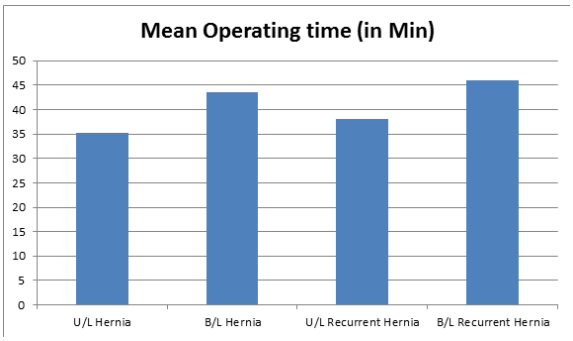
EXCLUSION CRITERIA : Complicated hernias(strangulation , obstruction), complete hernias

Procedure principle is placement of prosthetic mesh occluding the myopectineal orifice of frauchard by preperitoneal approach with a small incision and proper hemostasis.procedure is done in supine position under spinal anaesthesia. a midline incision was taken just above the pubic symphysis measuring 3-4 cm with the upper end of incision at the level of anterior superior iliac spine (ASIS).incision was deepened and the linea alba was cut in the line of incision, the two recti musles were split and the preperotoneal space was created by retraction and blunt digital dissection as for as iliopsoas fascia and asis .dissection continued in the retropubic space of Retzius infront of the bladder. Direct sacs are reduced in the course of dissection spontaneously. the sacs in indirect hernias were identified after delivering the cord structures through the main wound . sac carefully separated from the cord structures avoiding injury to the testicular vessels. small indirect sacs were reduced easily, but large indirect sacs were divided with cautery near internal inguinal ring leaving the distal sac in situ .Any accidentally opened peritoneum closed with 2-0 absorbable suture. After all hernias were reduced a 12x14 cm piece of polypropylene mesh was placed in the inguinal region and evenly spread and the mesh should cross the midline minimum 4 cm.the mesh wasd fixed to the pubic tubercle and posterior rectal musculature(optional) and ask the patient to take a deep breath by this the mesh will spread evenly by Pascal's law, mesh should cover the direct, indirect, and femoral spaces. no 14 suction drain was kept. incision closed in layers. compression dressing was done in the operated area.post operative pain was evaluted by visual analog scale and occurance of complications like hematoma,seroma,and infection were noted.all the patients were dicharged in 24 hrs.stitch removal done on 10 th post operative day.

RESULTS

One hundred inguinal hernia patients were repaired over aperiod of

2 years by this method which 60 unilateral 26 bilateral 14 recurrent hernias.the mean operative time recorded for u/l hernias is 35.23 min for bilateral hernias is 43.54 min. ,and 38 min. and 46 min for u/l and b/l recurrent hernias respectively. post operative complications like hematoma formation noted in 4 patients seroma formation is noted in 2 patients, post operative pain was noted in 2 patients and. recurrence is noted in 1 patient who was b/l recurrent hernia case.



DISCUSSION : Strengthening the posterior inguinal floor is the main principle for inguinal hernia surgery. Lichenstiens tension free repair is the most standard procedure which is done all over the world with least recurrence rate (0.3%),it is done by simply placing the polypropylene mesh on the inguinal floor without any closure of tissue defect.it it is widely accepted having advantages like non requirement of specialized surgical equipments and very low recurrence rates. but complications like Hematoma formation, Seroma Formation, Nerve Injuries, nerve entrapments, injury to the testicular vessels and vas difference, testicular atrophy, Scrotal oedema are more common with this anterior dissections. And for bilateral hernias we have to use two separate incisions .For recurrent cases it is some sort of difficult to go through anterior approach because scaring of tissues.

To prevent these posterior complications posterior approaches are emerged. stoppas (Giant prosthetic reinforcement of visceral sac), Total exta peritoneal repair and TAPP (Trans abdominal preperitoneal repair) are common posterior approaches. pre peritoneal approaches are are better in terms of avoiding local wound complications, for bilateral cases repair is done through the same incision or ports. And for recurrent cases it is advisable to go for posterior approach.

Stoppa's procedure is done in cases of recurrent and bilateral inguinal hernias requires big incision with extensive tissue dissection of pre peritoneal space for the insertion of mesh .the potential complications like fluid collections due to extensive tissue dissection are hematoma ,seroma,infection.Coda et al.,1997 reported a 24.6% rate of hematoma and seroma solorzoo et al., 1999 reported 14% hematoma infectious complications while Beeys et al 1999 reported 22.6% of hematoma and seroma ,hydrocele ,hematoma,and the use of suction drainage in 83% of the patients prolonged the days of hospital stay with a mean of 3.5 days.

Laparoscopic procedures total extra peritoneal repair (TEP)is done by one umbilical camara port and two working ports.the procedure done under general anaesthesia.preperitoneal space is created by balloon dissection .the hospital cost of laparoscopic repairs is significantly higher than that of conventional repair because of expensive equipement needs and general anesthesia is required for laparoscopy adding complications of general anesthesia.

But in Open TEP which is done under spinal anaesthesia, with a small incision, not using specialized equipments. Direct visualization of anatomy and not disturbing the inguinal Canal structures like testicular vessels, vas difference and nerves are the main advantages of this procedure. The learning curve for laparoscopic TEP is minimised with this open procedure by understanding the anatomical relations of vital structures, open TEP is especially useful for recurrent hermia which are approached anteriorly in previous surgeries.

Post operative pain is seen 2 cases (2%), for whom oral analgesics are given. Local wound complications like hematoma, seroma formation is seen in 4 patients, comparitively very much lesser incidence thus lichenstien repair. Recurrence was seen one case (1%)for which open lichenstien's repair done after 6 months.ased on studies by Amid(-Amid 1997) that a shrinkage reduces its size by 20% during the first 6 months ,proposes the need to place mesh with larger size to prevent such recurrences. The mesh should not be smaller than 24.6 cmwhich is distance between two iliac spines and from navel to the pubis.

Since repair is done through midline incision it is convienient in cases for bilateral hernias to be dealt with through the same incision and there is good patient compliance in terms of pain,oedema,swelling as compared to the lichenstiens repair .

CONCLUSION

looking into the advantages and disadvantages the above mentioned techniques , we performed the method combining the best effects of laparoscoic tep and stoppas GPRVS .open tep procedure has the advantages of both laparoscopic tep and stoppas in terms spinal anaesthesia , small incision, less operative time ,less recurrence rate with good cosmesis and patient compliance and less cost. Here we can visualize the anatomy directly which decreases the learning curve for laparoscopic TEP. local wound comlications like hematoma seroma infections neurodynia ischemic orchitis are negligible with this procedure .

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