NO MESH DESARDA TECHNIQUE FOR INGUINAL HERNIA REPAIR – OUR EXPERIENCE.

BY:

这首歌
- DR. SATISH KUMAR R - PROFESSOR AND HOD
- DR. HEMANTH VUPPUTURI - POST GRADUATE
- DEPARTMENT OF GENERAL SURGERY ,
- KEMPEGOWDA INSTITUTE OF MEDICAL SCIENCES AND RESEARCH CENTRE ,
BANGALORE, KARNATAKA
INTRODUCTION

- Tissue based techniques for inguinal hernia repair have been in recent time only of historical value.
- Lichtenstein's repair has been used as a blanket surgery for all types and sizes of inguinal hernia with very few exceptions.
- But various tissue repairs like Shouldice are still in use at certain centres with a recurrence rate of <1%.
INTRODUCTION

- Laparoscopic Inguinal Hernia repair has posed a threat to the monopoly of Lichtenstein's repair in recent times, however the steep learning curve, cost involved, complexity of surgery and complications have made the use of this method difficult.

- DESARDAS TECHNIQUE

- This is a relatively new tissue based repair technique.
- It was proposed by an Indian Surgeon first in 1998.
- This is a complete physiological repair
INTRODUCTION

- It uses a strip of external oblique muscle to strengthen the posterior wall of inguinal canal along with simultaneous creation of a shutter mechanism at the deep ring.
- This is a complete tissue repair and does not use prosthetic mesh.
- Hence hernia repair can be made more tailored rather than blindly using Prosthetic mesh for all hernias.
- This Technique is being exclusively followed in certain centres in USA.
IDEAL HERNIA REPAIR

- Tension free
- Tissue based
- No potential damage to vital structures
- No Long Term pain
- No Recurrence

IDEAL HERNIA MESH (30th International Congress of the European Hernia Society)

- Negligible foreign body reaction
- No pathologic fibrosis.
- Low adhesion Potential
- Tensile strength of 16 N
- Should match the abdominal wall dynamics as closely as possible (Flexibility, Elasticity and Memory)
- Biological Origin
HISTORY OF USE OF EXTERNAL OBLIQUE MUSCLE IN HERNIA REPAIR

- HALSTEADS OPERATION I: Used Bassinis Repair + Suturing of External oblique to Inguinal Ligament and leaving the Cord structures subcutaneously

- HALSTEADS OPERATION II: Similar to Hallstead's I with placing of the cord structures within a fascial slip derived out of External oblique Fascia or Scarpas Fascia.

- McARTHURS REPAIR: Used detached strips of external oblique muscle to suture the conjoint tendon to inguinal ligament
SALIENT FEATURES OF DESARDA REPAIR

✓ Complete Tissue based repair

✓ Dynamic in short term and long term
  ✓ EO Contracts during Cough/ Strain
  ✓ Ability of EO to Hypertrophy as demonstrated in athletes

✓ Dynamic Shutter Mechanism at deep Inguinal Ring

✓ Average Tensile strength of 0.2- 1.2 mm thick layer of EO muscle is 26 N¹ (10 N > Requirement by EHS)
SALIENT FEATURES OF DESARDA REPAIR

- Vascularity and Nerve Supply of External Oblique Preserved
- No Long term Pain - Inguinodynia
- No risk of adhesions/ Mesh migration
- No risk of infertility due to entrapment of cord structures
- Easy to learn
- Low cost
- No Foreign body sensation
METHODOLOGY

(pdev)

A total of 30 patients were admitted in this study with a follow up period of one year.

pdev

The study was done at Department of Surgery, Kempegowda Institute Of Medical Sciences.

pdev

The study was started in September 2013 and is still ongoing.

pdev

The patients were randomly selected into the study.

pdev

All patients were explained about the new procedure and consent was taken.

pdev

Clearance from the Institutional Ethical committee was obtained for the study.
METHODOLOGY

INCLUSION CRITERIA:

All cases of inguinal hernia admitted for surgery

> 18 Years of age

EXCLUSION CRITERIA:

Patients with:

1. Obstructive uropathy or COPD. They are associated with definite poor outcomes such as high recurrence rates.

2. Old and debilitated patients of poor general condition.

3. Patients with strangulated hernia.

4. Recurrent Hernias.

5. Per operative finding of separated, thin and/or weak external oblique aponeurosis
METHODOLOGY

- All patients underwent the procedure by the same surgeon.
- Both direct and indirect hernias were included in the study.
- All patients have been explained the use of Visual Analog Scale (used for post operative pain measurement) prior to surgery.
METHODOLOGY

- All patients were given the same dose of analgesics and same antibiotics adjusted to bodyweight.
- All patients were discharged on the day when they wanted to leave the hospital.
- Post operative complications included seroma, infection, etc.
- Follow up was done telephonically and by patient visits to the OPD after the surgery.
METHODOLOGY

The following parameters were observed:

- Operating time
- Post-operative pain
- Post-operative complications
- Hospital stay
- Time to ambulate/ return to work
- Financial expenditure
- Chronic pain
- Recurrence
Incision of upper leaf of external oblique

Closure of external oblique aponeurosis

Upper leaf of EO sutured to Ing Ligament

Upper leaf of EO sutured to conjoint tendon

Closure of external oblique aponeurosis
Precautions To be Followed In Desarda Repair

External Oblique should be handled with care not to separate the fibres

Suture bites should be taken through muscle / Ligaments/ aponeurosis

Prolene 2–0 was used in the present study

Thin Filmy Layer over External oblique aponeurosis better be preserved.
RESULTS

♫ AGE DISTRIBUTION:
♫ The mean age of the subjects studied was 48.3 (95% CI 43.7 - 52.9)

♫ SEX DISTRIBUTION:
♫ The study population consisted of 26 males and 4 females
RESULTS

TYPES OF HERNIAS:
Of the 30 cases included in the present study a total of 12 were direct hernias and 18 were indirect hernias.
RESULTS

ציגタイプ OPERATIVE RESULTS:

ﯿサ OPERATING TIME:

• The mean operating time was:
• Main repair was 45.55 mins (95% C.I-43.85 to 47.25)
• Total Repair was64.09 mins(95% C.I - 62.31 to 65.87)

• One patient was randomised to undergo Desarda procedure, but the procedure was abandoned and mesh was placed due to intra operative finding of thinned out external oblique.
RESULTS

POST OPERATIVE PAIN:
The Mean postoperative pain as per VAS scale is:

- POD1: 4.77
- POD2: 3.68
- POD3: 3.09
RESULTS

❖ Return to normal Gait:
❖ The mean duration of return to normal gait was 4 days

❖ Hospital stay:
❖ The mean duration of hospital stay was 6.18 days

❖ Return to work:
❖ The mean duration of return to regular was 9.6 days
RESULTS

COMPLICATIONS:

The chance of having a seroma in first 10 days post surgery was 24%: 7 out of 30 patients developed seroma. This was statistically significant with P value <0.05.
RESULTS

No other complications were observed in the patients in the present study after one year of follow up.

OVERALL FEELING ABOUT THE SURGERY

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>% OF PATIENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATISFACTORY</td>
<td>24%</td>
</tr>
<tr>
<td>GOOD</td>
<td>32%</td>
</tr>
<tr>
<td>VERY GOOD</td>
<td>44%</td>
</tr>
</tbody>
</table>
## Comparison of Present Study with Manyilirah et al\(^2\) and Szopinski J et al\(^3\)

<table>
<thead>
<tr>
<th>Comparative Parameter</th>
<th>Present Study</th>
<th>Manyilirah et al</th>
<th>Szopinski J et al</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postoperative Pain : POD 2</td>
<td>3.68</td>
<td>4.4</td>
<td>4.2</td>
</tr>
<tr>
<td>Time to Normal Gait- Days</td>
<td>4</td>
<td>4.2</td>
<td>4.7</td>
</tr>
<tr>
<td>Duration of Hospital Stay</td>
<td>6.18</td>
<td>5.8</td>
<td>5.7</td>
</tr>
<tr>
<td>Seroma Rate</td>
<td>24%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Rate of Wound Infection</td>
<td>0%</td>
<td>4.0%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Chronic Pain</td>
<td>0%</td>
<td>1.2%</td>
<td>-</td>
</tr>
<tr>
<td>Recurrence</td>
<td>0%</td>
<td>0.6 %</td>
<td>1.1%</td>
</tr>
</tbody>
</table>
CONCLUSION

The current study found the following advantages with Desarda procedure for hernia repair:

- This is a physiological repair, dynamic and tension free
- Less risk of chronic pain (> 3 months duration)
- No risk of complications in future like decreased testicular blood flow, infertility and testicular atrophy etc as there is no mesh placed\textsuperscript{4,5,6}
CONCLUSION

- Early ambulation and less time of hospital stay.
- No Foreign body sensation in operated region after surgery.
- Low cost for the patient as mesh is not used.
- Ideal procedure for Inguinal Hernias in women and Indirect inguinal hernia as it provides shutter mechanism at the deep ring and has no long term effects.
REFERENCES


2. Manyilirah W. Comparison of non-mesh (Desarda) and mesh (Lichtenstein) methods for inguinal hernia repair at Mulago Hospital: a single-centre double-blind randomised controlled trial. 2009;


