Comparison between Lord Dilation Versus Lateral Internal Sphincterotomy for Management Post Hemorrhoidectomy Pain and Stenosis

Raisan Mahdi Shoramah Aljabery
M.B.Ch.B., F.I.C.M.S., General Surgery, Iraqi Council for Medical Specialization, Al Fayhaa Teaching Hospital, Kutalhjaj, Basra, Iraq

Abstract
Hemorrhoidectomy is usually associated with significant pain during the postoperative period. The spasm of internal sphincter seen to play an important role in the origin of pain. This study was designed to evaluate the effectiveness of lateral internal sphincterotomy or Lord dilatation of anal sphincter after hemorrhoidectomy in regarding the maximum resting pressure of the anal canal, accelerating wound healing and decrease postoperative pain when resting and defication. The patients with profound or diagnosed hemorrhoid (n = 79), visited to the Alfayha teaching hospital during April 2016 to June 2017 were enrolled in the present study. The informed consent was taken from each patient before enrollment. Seventy nine patients were admitted in the hospital complaining from anal stenosis and pain after different method of hemorrhoidectomy. The patients underwent hemorrhoidectomy with unhealed wound and severe pain after defication one month ago. They were divided into the two groups viz. patients treated with lateral internal sphincterotomy (n = 40) or lord dilatation surgery (n = 39). In the present study the ratio of lateral internal sphincterotomy to lords dilatation surgery were found to be 2.761. The occurrence of the hemorrhoid was found to be higher in male than females (2.95:1). The higher number of patients were from 21-30 age group. About 69.2% of male patients were operated by lord dilatation, while 33 (82.5%) of male patients managed by lateral internal sphincterotomy. Around 12 females (30.8%) managed by lord dilatation and 7 (17.5%) female patients managed by lateral internal sphincterotomy. Out of total patients, 43 were suffering from diabetes mellitus where, 16 were operated by the lard dilation and 27 were operated with lateral internal sphincterotomy. Around 22 suffering steroid problem out of which 17 were operated by the lard dilation and 5 were operated with lateral internal sphincterotomy. About 3 patients were suffering malignancy (2 in lard dilation and 27 in lateral internal sphincterotomy surgery). The present study concluded that the lord dilatation is significant improve wound healing after hemorrhoidectomy and decrease pain.

Keywords: Hemorrhoids, Lord dilatation, Lateral internal sphincterotomy, Stenosis.

Introduction
Hemorrhoids are the dilated or enlargement of veins in the walls around the rectum and anus due to prolong and untreated constipation. However, it sometimes linked to chronic diarrhea and also known as “piles”. Sever bleeding is the first symptoms of it. If untreated, then it can become worsened, protruding from the anus. Around 50% of the peoples are having hemorrhoids by the 50 years age. It is roughly calculated that about 58% people over 40 year age are having the disease in USA and almost one third patient goes to surgeons for the treatment. At any age the hemorrhoids can occur, and
affects both women and men. In developing countries, the exact incidence is unknown, but the hemorrhoids are more frequently being encountered. Hemorrhoids are thought to work as continence mechanisms part and aids in anal canals complete closure at rest. Proposed etiological factors of hemorrhoidectomy includes absent valves in the portal vein, weak blood vessels, internal anal sphincters derangement hereditary, ageing, obesity, pregnancy, prolonged straining and constipation. In spite of various studies, the hemorrhoids pathogenesis remains still unclear.

Perhaps, for the treatment of hemorrhoids prevention is the best. Treatment involves changing the diet to prevent constipation and avoid further irritation, the use of topical medication, and sometimes surgery. Once the disease is established, over the time it tends to get worse. For hemorrhoids the mainstay treatment is therefore surgical, but unluckily operative hemorrhoidectomy is generally connected with important postoperative complications involving anal stricture, bleeding and pain, which may result in a convalescence protracted period. The Hemorrhoidal treatments recent meta-analysis has concluded that initial mode of therapy was rubber band ligation for the hemorrhoids of first to third-degree.

Anal dilatation is done as described by the Watt’s et al. The proctoscopy and 1st digital rectal examination is carried out to rule out other bleeding causes and to confirm clinical findings. After that right hand completely lubricated index finger is inserted and a band of constriction was palpated corresponding to anorectal line. After the constriction bands complete palpation, each hand completely lubricated index finger was introduced into the anal canal. A process continued till anal canal was enough relaxed to accept four fingers without much force.

Manual dilatations lord’s procedure of the anus is mostly used over last 10 years, and at 5 years follow-up two small series have reported very good results. The factors determining satisfactory outcomes are not defined. Early studies have indicated that patients having hemorrhoids area having higher anal pressure than controls and there the lords procedure have significantly reduced the pressure. Hemorrhoidectomy is usually associated with significant pain during the postoperative period. The spasm of internal sphincter seen to play an important role in the origin of pain. This study was designed to evaluate the effectiveness of of lord dilatation versus the lateral internal sphincterotomy as a treatment of post hemorrhoidectomy pain and stenosis.

Material and Method

Patient Enrollment: The patients with profound or a diagnosed hemorrhoid (n = 79), visited to the Al Fayhaa teaching hospital during April 2016 to June 2017 were enrolled in the present study. The informed consent was taken from each patient before enrollment. The patients underwent hemorrhoidectomy with unhealed wound and severe pain after defication one month ago. They were divided into the two groups viz. patients treated with lateral internal sphincterotomy (n=40) or lord dilatation surgery (n=39).

Surgical Procedure: All patients were prepared for elective surgery. All surgery done under general anesthesia and lethisotomy position. In a lord dilatation surgery group, four fingers dilated anus was done while in the lateral internal sphincterotomy group, small incision was made at 3 o’clock, delivery of internal sphincter to the wound and cutting using electrocutery, skin closed with 3/0 vicryl.

All patients remain in hospital for 24 hours for postoperative observations. They were given antibiotic and NSAID as a medication. All patients were followed for six months for complications, if any.

Statistical Analysis: Results were presented as Mean ± standard deviation (SD). Dunnett multiple comparison test and one way analysis of variance (ANOVA) was done to estimate the statistical significance.

Results

Present study involved total 79 patients, out of which 39 were operated by lord dilatation and 40 were operated by lateral internal sphincterotomy. Here, higher number of patients were from 21-30 age group.

Table 1: Age groups of patients involved in the present study

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Lard Dilatation</th>
<th>Lateral Internal Sphincterotomy</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-20</td>
<td>07</td>
<td>03</td>
<td>10</td>
</tr>
<tr>
<td>21-30</td>
<td>20</td>
<td>22</td>
<td>42</td>
</tr>
<tr>
<td>31-40</td>
<td>07</td>
<td>05</td>
<td>12</td>
</tr>
<tr>
<td>41-50</td>
<td>04</td>
<td>07</td>
<td>11</td>
</tr>
<tr>
<td>51-60</td>
<td>01</td>
<td>03</td>
<td>04</td>
</tr>
<tr>
<td>60&lt;</td>
<td>00</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>40</td>
<td>79</td>
</tr>
</tbody>
</table>
Table 2 shows the number and percentage of male and female. About 69.2% of male patients were operated by lord dilatation, while 33 (82.5%) of male patients managed by lateral internal sphincterotomy. Around 12 females (30.8%) managed by lord dilatation and 7 (17.5%) female patients managed by lateral internal sphincterotomy.

Table 2: gender vise distribution of enrolled patients

<table>
<thead>
<tr>
<th>Gender</th>
<th>Lord Dilation</th>
<th>Lateral Internal Sphincterotomy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>27 (69.2%)</td>
<td>33 (82.5%)</td>
</tr>
<tr>
<td>Female</td>
<td>12 (30.8%)</td>
<td>07 (17.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>39 (100%)</td>
<td>40 (100%)</td>
</tr>
</tbody>
</table>

All patients were arranged in Table 3 according to cause of post hemorrhoidectomy pain and stenosis in form of chronic illness (diabetes mellitus, steroid and malignancy). Out of total patients, 43 were suffering from diabetes mellitus where, 16 were operated by the lord dilatation and 27 were operated with lateral internal sphincterotomy. Around 22 suffering steroid problem out of which 17 were operated by the lord dilatation and 5 were operated with lateral internal sphincterotomy. About 3 patients were suffering malignancy (2 in lord dilatation and 27 in lateral internal sphincterotomy surgery).

Table 3: Type of delayed wound healing

<table>
<thead>
<tr>
<th>Type of procedure</th>
<th>Fistula in ano</th>
<th>Recurrent anal fissure</th>
<th>Delayed wound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lateral internal sphincterotomy</td>
<td>5***</td>
<td>1**</td>
<td>3*</td>
</tr>
<tr>
<td>Lord dilatation</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

The results are presented as Mean ± standard deviation (SD). ***p≤0.001, **p≤0.01 and *p≤0.05 when compared between lord dilatation and lateral internal sphincterotomy (Dunnett multiple comparison test).

Discussion

Anal dilatation is related to the uncontrolled damage of internal sphincter fibers which extent to the external sphincter

Various types of complications are observed in lateral internal sphincterotomy and lord dilatation. Fistula in ano observed in 5 patients, all were treated by lateral internal sphincterotomy, recurrent anal fissure was observed in 1 patient, which was treated by lateral internal sphincterotomy, delayed wound healing was observed in 4 patients out of which 3 were treated by lateral internal sphincterotomy and 1 by lord dilatation.

Table 4: Complications in various types of procedures

The results are presented as Mean ± standard deviation (SD). ***p≤0.001, **p≤0.01 and *p≤0.05 when compared between lord dilatation and lateral internal sphincterotomy (Dunnett multiple comparison test).
The present study is to compare LIS with LAD in the anal fissure treatment, recognizing recurrence, post-operative complications and symptoms. When compared the postoperative complications and symptoms and their recurrence among both, the LAD and LIS group, the LAD was found to be more significant than LIS. However, some studies reported the contradict reports.\(^\text{14,15}\)

In the present study, the ratio of lateral internal sphincterotomy to lords dilatation surgery were found to be 2.761. The occurrence of the hemorrhoid was found to higher in male than females (2.95:1). The results are according to the earlier reports\(^\text{11,16}\). The male to female ratio were reported by several authors. Around 2.3:1, 1.7:1 and 1.4:1 of male to female ratio were reported by Nahas et al.,\(^\text{16}\) Kumar et al.,\(^\text{17}\) and Gupta et al.,\(^\text{11}\), respectively. In the hemorrhoid, bleeding through the rectum and constipation are very common.\(^\text{18,19}\) Lateral internal sphincterotomy surgery showed fistula in ano, recurrent anal fissure and delayed wound as compared to the lord dilatation. Kumar et al.,\(^\text{18}\) reported sentinel tag at 6 o’clock, while in the present study we have done at 3 o’clock. He reported no statistical difference (p=0.565) in the LAD and LIS. However, our study contradicts to this report. The study reveals significant (p<0.001) variation in the fistula in ano, recurrent anal fissure and delayed wound between LAD and LIS.

Diverse reports are available for the comparison between anal dilatation and lateral internal sphincterotomy\(^\text{10}\). Through the study is well planned, still there are some limitations. There are the enrolled patients are relatively low. Lateral internal sphincterotomy surgery showed consistency while dilatation technique showed variation regarding the number of employed. Lack of provisional anal manometer to monitor anal pressure is also one of the lacuny. Despite of these limitations, the present study demonstrate significant benefits of lateral internal sphincterotomy overlord anal dilatation.

### Conclusion

The ratio of lateral internal sphincterotomy (LIS) to lords dilatation surgery (LAD) was found to be 2.761. The occurrence of the hemorrhoid was found in higher in male than females (2.95:1). Significant (p<0.001) variation in the fistula in ano, recurrent anal fissure and delayed wound between LAD and LIS. The study can be concluded as, lord dilatation (LAD) is significant improve wound healing after hemorrhoidectomy and decrease pain.

### Ethical Clearance:

Ethical clearance taken from Al Fayhaa teaching hospital.

### Funding Source:

Self

### Conflict of Interest:

Nil

### References


