

## ASPIRATION AND TETRACYCLINE SCLEROTHERAPY OF PRIMARY VAGINAL HYDROCOELE OF TESTIS IN ADULTS

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**Background:** Primary Vaginal Hydrocoele of Testis is a common condition which is primarily treated surgically. Many patients with Hydrocoele of testis are either not willing or are unfit for surgery. This study was done to know the safety, efficacy and out come of tetracycline induced sclerotherapy of Primary Vaginal Hydrocoele of Testis in adults. **Methods:** This quasi experimental study was done in Shahina Jamil Hospital, attached with Frontier Medical College and Ayub Teaching Hospital, Abbottabad from March 2006 to April, 2007. Thirty-seven patients with primary vaginal hydrocoele were included in the study. Aspiration and instillation of Tetracycline was done after spermatic cord block with 2% lignocaine. Procedure time, Peri and Post-procedure complications, number of injections for cure and patients' satisfaction with the procedure were recorded. Patients were discharged home 3 to 4 hours after the procedure and followed up after one week, one month, three months and six months. Direct admission and re-admissions were recorded. **Results:** The mean age of patients was 47 years. Mean procedure time was 45 minutes. All patients were cured. Mild postprocedure pain occurred in 12 (40%), moderate pain in 14 (46%) patients and severe pain in 4 (13.3%) patients. No patient developed haematoma or local infection. One patient (3.3%) had micturition problem. Two (6.6%) patients had minimal recurrence. One injection was sufficient for cure in all patients. 28 (93%) patients were satisfied while 2 (6.6%) patients were not satisfied with this procedure. No patient was admitted in the hospital after the procedure. **Conclusion:** Aspiration and injection of tetracycline in Primary vaginal Hydrocoele of Testis in adults is safe, effective and very economical procedure.

**Key words:** Primary Vaginal Hydrocoele, Aspiration Tetracycline Instillation, Sclerotherapy,

### INTRODUCTION

The conventional treatment of Hydrocoele of Testis is surgical.<sup>1</sup> It is associated with inconvenience of hospitalization and complications of anaesthesia and surgery.<sup>2</sup> Simple repeated aspiration of primary vaginal hydrocoeles may keep the patient comfortable but increases the risk of infection and recurrence.<sup>3</sup> Kaye in 1982 first described usefulness of tetracycline in the treatment of hydrocoele of testis which is extensively used for chemical pleurodesis in recurrent pneumothorax and malignant pleural effusions.<sup>4,5,6</sup> Different sclerosent agents are now widely used in treatment of hydrocoele including phenol<sup>7</sup>, ethanolamine oleate<sup>8</sup>, sodium tetradecyl sulphate<sup>9</sup>, tetracycline<sup>10,11</sup> and fibrin.<sup>12</sup> The objective of this study was to know the out come of aspiration and instillation of tetracycline induced sclerotherapy of primary vaginal hydrocoele in terms of safety, efficacy and procedure related morbidity.

### MATERIAL AND METHODS

This quasi experimental study was carried out in out-patient department of Shaheena Jamil Hospital, attached with Frontier Medical College Abbottabad and Ayub Teaching Hospital Abbottabad from March 2006 to April, 2007. All the patients with clinical diagnosis of primary vaginal hydrocoele were included in the study. All patients had testicular ultrasonography was performed to rule out any

secondary cause for hydrocoele. Those who did not give consent for the procedure, age less than 25 years, known hypersensitivity to tetracycline, coagulopathy, hydrocoele with inguinal hernia, post operative hydrocoele and acutely inflamed scrotum and inguinal region, were excluded from study. Written consent was obtained and patients were verbally informed about the procedure, expected post-procedure course and possible complications. In case of complications, immediate access to a surgical bed in a local hospital was available as study protocol. Under aseptic conditions spermatic cord was blocked by 2% lignocaine infiltration, a bleb was raised off scrotal skin and 20-gauge I/V cannula inserted into vaginal sac and hydrocoele fluid was aspirated after removing stilette. Leaving cannula in situ, two capsules of tetracycline were mixed with 2 ml bupivacaine in a 10 ml syringe, needle removed and the solution was injected into the sac. Scrotum was massaged gently for few seconds in order to distribute the drug evenly. The patients were observed for 3–4 hours and then were discharged home. They were prescribed Tablets Ibuprofen 600 mg TDS. They were reviewed after one week, one month, three months and six months. Scrotal ultrasound was performed at each follow-up visit to see resolution of hydrocoele. Any complications during and after the procedure were noted. On follow-up symptomatic improvement and any complications recorded. Questions were asked about

their satisfaction with the procedure. If they were not satisfied, reasons for dissatisfaction were noted. The Performa was completed prospectively and the data recorded included the total number of operation performed in the study period, mean operating time, number of injections of sclerosant, complications, recurrence, and satisfaction with the procedure.

## RESULTS

Out of a total of 37 patients, 7 patients were lost to follow-up and data from 30 patients were included in the study. The mean ages of patients were 47 years. Mean procedure time including spermatic cord block was 45 minutes. All patients were cured with a follow-up of six months. A single injection of Tetracycline was sufficient and no patient required re-treatment. Twelve (40%) patients complained of mild pain and 14 (46%) patients complained of moderate pain over scrotum. All these patients were comfortable with analgesia as needed by oral analgesics. Four (13.3%) patients had severe post procedure pain. They were given supplemented parenteral analgesic Diclofenac 75 mg and settled. Only 2 (6.6%) developed recurrence of mild nature. They were offered second injection sclerotherapy but they were satisfied with the improvement and did not opt for further treatment. No patient had scrotal haematoma or infection. One patient (3.3%) had micturition problems like hesitancy and dribbling but settled. No patient was admitted directly after the procedure or after discharge in the hospital. Twenty-eight (93%) patients were satisfied with the procedure. Two (6.6%) patients were not satisfied because of pain.

**Table-1: Complications of aspiration and tetracycline sclerotherapy (n=30)**

Complications	Number	%
Mild pain	12	40%
Moderate pain	14	46.6%
Severe pain	4	13.3%

## DISCUSSION

Most patients in our society are reluctant to have surgery for hydrocoeles and opt for conservative treatments. The reasons may be shame, economical, fear of pain and no hospitalization. Many surgeons consider surgery as the last resort because of postoperative complications like haematoma, infections and urinary retention. A number of sclerosants like phenol, sodium tetradecyl sulphate, polidocanol are used and all are useful for treating hydrocoeles. However they are not readily available in Pakistan. Our choice of tetracycline as sclerosent agent for sclerotherapy was based on its low cost, antibiotic itself and easy availability. Its very low PH (2.0–3.5) results in inflammation and sclerosis of tunica vaginalis.<sup>6</sup>

There were 30 patients in this study who had aspiration and tetracycline sclerotherapy for hydrocoeles and followed-up for 6 months. All (100%) patients in this study were cured. These results are comparable with other studies in literature where the success rate were 90 to 100%.<sup>13–15</sup> Many studies have been done comparing sclerotherapy with surgery. Roosen reported cure rate of 89% following Tetracycline sclerotherapy and 100% following surgery after 6 months follow-up but the mean duration of hospitalization in latter group was 2–5 days.<sup>16</sup> Beiko compared aspiration and sclerotherapy with hydrocelectomy for the treatment of hydrocoele. Overall success for aspiration and sclerotherapy was 76% compared with 88% for surgery but complication rate of only 8% in aspiration and sclerotherapy group and 40% in surgery group. Comparative cost per procedure demonstrated that surgery group was almost nine fold more expensive than sclerotherapy.<sup>17</sup> Mean procedure time in our study was 45 minutes. Roosen reported procedure time of 45 minutes while Beiko reported procedure time of 50 minutes.<sup>16,17</sup>

The complications in this study were limited to mild to moderate pain. Severe pain occurred in only 4 (13.3%) patients. This may be because we used Tetracycline with bupivacaine along with spermatic block. These result are comparable with other studies.<sup>13,15</sup> However, Ozkan reported severe pain in 46.6% patients in their randomized prospective study.<sup>18</sup> No patient in this study had severe pain necessitating admission to a hospital.

One injection sclerotherapy was sufficient for cure in our study. Only 2 (6.67%) patients in this study had mild recurrence noticed on six months follow up. They were satisfied with the overall improvement and re-treatment was not done. Reported recurrence varies depending upon the studies. Most recurrences vanish spontaneously and re-injection should not be done until 3 months. However in large hydrocoeles, injection can be repeated. Onu reported up to 5 injections for cure.<sup>15</sup> Other studies have also reported that repeat injections are needed in some patients with recurrence.<sup>18,19</sup> No patient underwent surgery for recurrence. Renken reported postsclerotherapy surgery in 4% patients.<sup>20</sup> There were no cases of infection or haematoma in this study. Some studies in literature have mentioned orchidectomy after sclerotherapy for infected haematocoele.<sup>18,20</sup> No patient in this study needed orchidectomy.

This procedure was also accepted by the patients who stated their satisfaction. If tetracycline induced sclerotherapy of primary vaginal hydrocoele could be performed in an out-door setting, there is no inconvenience of hospitalization. Many patients

would benefit leaving more beds, theatre time and hospital resources for acute cases. Appreciable savings may also be made in patients' waiting times and cost of surgery.

### CONCLUSIONS & RECOMMENDATIONS

We conclude that aspiration and injection of tetracycline in primary vaginal hydrocoele is safe, cost effective and is preferred for older patients who are at risk of anaesthetic complications and having other medical co-morbidities. We strongly recommend this as a reasonable first line alternative to an open operation.

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