Original Article

A comparative study of single incision versus double incision in bilateral hydrocele operations

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Abstract

Introduction: Hydrocoele is an accumulation of fluid in between tunica vaginalis. hydrocoele fluid is amber coloured, specific gravity 1.022-1.024. It contains water, salts, albumin, fibrinogen. Types Congenital, Acquired-primary, secondary Etiology. **Aims and Objectives:** To Study Single Incision versus Double incision In Bilateral Hydrocele Operations **Methodology:** This study was carried out at tertiary health care center during one year period i.e. 2014 to 2015 in the 40 patients. Patients with Bilateral Hydrocele were included into the study, all of them Operated by Sharma and Jhawars technique either by Single or Double incision method These patients were divided into two treatment groups i.e. Single Incision (n=20) and Double Incisions(n=20) groups randomly by computer generated random numbers respectively. Un-paired t-test and Z-test (Standard error of Difference between two proportions) was used for statistical analysis **Result:** Time required for Operation was significantly more in Single incision group than Double incision Group.(P<0.001). Post- Operative Pain on Day 1 and Day 5 was significantly less in Single incision group than Double incision Group.(P<0.05). Incidence of Fever was significantly less in Single incision group than Double incision Group. (P<0.05). Incidence of Hematoma was significantly less in Single incision group than Double incision Group.(P<0.05) Incidence of Infection was significantly less in Single incision group than Double incision Group.(P<0.05). Mean suture Removal Day significantly less in Single incision group than Double incision Group.(P<0.05). Recurrence significantly less in Single incision group than Double incision Group.(P<0.05).

Key Words: Single Incision, Double incision, Bilateral Hydrocele, Sharma and Jhawars technique.

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INTRODUCTION

Hydrocoele is an accumulation of fluid in between tunica vaginalis.[1]hydrocoele fluid is amber coloured,[2] specific gravity 1.022-1.024. It contains water,[3] salts,[4] albumin,[5] fibrinogen.[6]TypesCongenital, Acquired-primary,[7] secondary Etiology A hydrocele can be produced in four ways: By excessive production of fluid within the sac,[8] e.g. secondary hydrocele Through defective absorption of fluid By interference with lymphatic drainage of scrotal structures as in case of elephantiasis By connection with a hernia of the peritoneal cavity in the congenital variety,[9]which presents as hydrocele of the cord Clinical features : Swelling in scrotum which is cross fluctuant,[10]transilluminant,[11] non palpable testes and can get above the swelling.[12] The conventional treatment of a symptomatic hydrocele is surgical and hydrocelectomy remains the most common method of treatment. Standard surgery brings about postoperative discomfort, a temporary limitation of normal activity and complications including prolonged pain, recurrence, hematoma, infection and injury to the scrotal contents[13]. Various minimal invasive procedures including minimal access hydrocelectomy, fenestration, aspiration and sclerotherapy were described[14,15]. However, all the minimal procedures were performed without the thorough observation of intrascrotal contents. Therefore, the surgery could be performed under the condition that other underlying intrascrotal pathology is missed, for preoperative clinical examination or ultrasound could misdiagnose these conditions.

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METHODOLOGY

This study was carried out at tertiary health care center during one year period i.e. 2014 to 2015 in the 40 patients. Patients with Bilateral Hydrocele were included into the study, all of them Operated by Sharma and Jhawars technique[16] either by Single or Double incision method. explained about the both the operative procedure i.e. Single and Double and their potential advantages and Disadvantages and after written consent of the patients; they were included into the study while those patients who did not give consent and associated with hydrocele complications, malignancy and other co morbid condition like diabetes, hypertension or immune compromised state were excluded from the study. Post-operative pain was calculated by the verbal rating score (VRS). These patients were divided into two treatment groups i.e. Single Incision (n=20) and Double Incisions (n=20) groups randomly by computer generated random numbers respectively. Un-paired t-test and Z-test (Standard error of Difference between two proportions) was used for statistical analysis

RESULT

Table 1: Distribution of Various Study Parameters in Single incision or Double incision

Parameters	Single incision (n=20) (Mean±SD)	Double incision (n=20) (Mean±SD)	P-value
Time required for Operation	45±3 min	30±2min	P<0.001
Post- Operative Pain			
Day 1	2.9± 1.14	5.55± 1.32	P<0.001
Day 5	0.9± 0.5	2.5± 0.12	P<0.01
Fever	2 (10%)	5 (25%)	P<0.05
Hematoma	1(5%)	6(30%)	P<0.05
Scrotal Edema	3(15%)	7(35%)	P<0.05
Infection	1(5%)	4(20%)	P<0.05
Mean suture Removal Day	6±1.5	7± 2.1	P<0.05
Recurrence	**4(20%)**	**2(10%)**	**P<0.05**

Time required for Operation was significantly more in Single incision group than Double incision Group. (P<0.001).Post- Operative Pain on Day 1 and Day 5 was significantly less in Single incision group than Double incision Group.(P<0.05). Incidence of Fever was significantly less in Single incision group than Double incision Group. (P<0.05).Incidence of Hematoma was significantly less in Single incision group than Double incision Group. (P<0.05)Incidence of Infection was significantly less in Single incision group than Double incision Group.(P<0.05). Mean suture Removal Day significantly less in Single incision group than Double incision Group.(P<0.05). Recurrence significantly less in Single incision group than Double incision Group.(P<0.05).

DISCUSSION

An acquired hydrocele is one of the most common benign scrotal pathological changes which affects approximately 1% of men and is mostly seen after age 40 years. Most acquired hydroceles are idiopathic in origin, but some may result from a reaction to tumors, infection or trauma. Pathogenesis of hydrocele is based on an imbalance between the secretion and reabsorption of the fluid [17]. The standard hydroceletomy is a common surgical procedure, though various methods of treatment for acquired hydrocele were described, such as hydrocele aspiration and sclerotherapy, endoscopic hydrocele ablation [18]. Hydroceletomy has advantages over these treatments in terms of the recurrence rate and patient satisfaction. Hydrocelectomy remains as the gold standard modality for the treatment of hydrocele [19]. But it has the disadvantages of discomfort and complications including mild to moderate incidence rate of recurrences, hematomas and infections; none of which had happened in our new surgery[20]. New minimal hydrocelectomy are designed to overcome these disadvantages. Some new minimal hydrocelectomy procedures were reported to excise hydrocele sacs through small incisions. The procedures showed minimal complications, decreased discomfort, and without recurrence.[21] They proved to be a viable and promising option for the surgical management of idiopathic hydrocele. But these procedures were performed without inspection of intrascrotal contents. Some pathological lesions resulting in hydroceles like infection, trauma or aseptic inflammation may be overlooked even when surgery was done. Though preoperative clinical examination and ultrasound can diagnose most of the intrascrotal lesions correctly, some pathological changes may still be missed. In Our study we found that Time required for Operation was significantly more in Single incision group than Double incision Group.(P<0.001). Post- Operative Pain on Day 1 and Day 5 was significantly less in Single incision group than Double incision Group.(P<0.05). Incidence of Fever was significantly less in Single incision group than Double incision Group.(P<0.05) . Incidence of Hematoma was significantly less in Single incision group than Double incision Group.(P<0.05) Incidence of Infection was significantly less in Single incision group than Double incision Group.(P<0.05). Mean suture Removal Day significantly less in Single incision group than Double incision Group.(P<0.05). Recurrence significantly less in Single incision group than Double incision Group.(P<0.05). This could because of the fact in single incision minimal visualization is there so

naturally more time required for surgery and pathology may not be corrected that may responsible for recurrence.

CONCLUSION

The Single Incision operative procedure was superior to double incision operative procedure in terms of Post-Operative Pain, incidence of Fever, incidence Hematoma, incidence Scrotal Edema incidence of Infection and Mean suture Removal Day; except more Time required for Operation and Recurrence rate was more as compared to Double incision.

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