ORIGINAL ARTICLE

Comparison of Surgical Excision versus Aspiration and Injection of Steroid of Wrist Ganglion

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ABSTRACT

Aim: Comparison of surgical excision versus aspiration and injection of steroid of wrist ganglion.
Methods: This randomized controlled trial was carried out at Shalamar Medical & Dental College Hospital Lahore and Shahida Islam Medical Complex Lodhran from 1st November 2016 to 30th June 2017. All patients with ganglion at wrist between 20 to 60 years of age of either gender were included. A total of 100 cases were divided in two equal groups. Group A was allotted to Surgical Excision while Group B cases were those treated aspiration of the cysts with steroid injection. No antibiotic administration was done except those developed any infection..
Results: In this study, mean age was 48.47±5.14 years in Group A and 46.23±6.78 years in Group-B. There were 22(44%) males in Group A and 20(40%) in Group B whereas 28(56%) females in Group A and 30(60%) in Group-B. Frequency of recurrence after surgical excision versus aspiration and injection of steroid of wrist ganglion was recorded as 6(12%) in Group A and 29(58%) in Group B, p value was 0.000.
Conclusion: The successful rate of excision of a ganglion is significantly higher in surgical excision as compared to those undergoing aspiration and injection of steroid.
Key words: Wrist ganglion, Surgical excision, Aspiration and injection of steroid, Recurrence

INTRODUCTION

Ganglion is a widely recognized benign tissue tumor appears on hand, it is recorded in 60–70% of all such type of tumors[1]. Usually, it is found adjacent to the tendons and joints but these may also found intra-osseous or intra-tendinous[2]. Usually, ganglions are painless and appears as localized swelling[3]. The etiology of dorsal wrist ganglion is still unclear, it originates from interval of scapho-lunate. Commonly, patients prefer medical care for reduction in pain and avoid surgical procedure due to cosmetic effect and fear. It may be easily diagnosed through physical examination and history. Aspiration alone, or by adding intralesional steroid injection and surgical excision is included in treatment choices. Surgical excision is an effective method and carries 5% recurrence rate, if it is completed excided. The recurrence rate varies from 1 to 49%.[4]

Common practiced method of treatment is aspiration of cyst. The use of intralesional steroid injection may have various advantages and considers an alternative method of treatment, if the success rate is comparable with surgical excision.[5-6]

As the ganglion at wrist is a medical complication, only few studies in our local population are available comparing the rate of recurrence followed by aspiration and steroid injection compared to surgical excision, however, still, surgical excision is a barrier for patients to accept it. We planned this study to compare recurrence rate in patients undergoing aspiration and steroid injections versus surgical excision of wrist ganglion.

PATIENTS AND METHODOLOGY

This randomized controlled trial was carried out at Shalamar Medical & Dental College Hospital Lahore and Shahida Islam Medical Complex Lodhran from 1st November 2016 to 30th June 2017. We included all patients with ganglion at wrist between 20 to 60 years of age of either gender. All cases with compound ganglions, history of diabetes mellitus, rheumatoid arthritis, bleeding diathesis, immunosuppression and having history of treatment of ganglion whether medical or surgical were excluded from the study. A total of 100 cases were divided in two equal groups. Group-A was allotted to surgical excision while Group-B cases were those treated aspiration of the cysts with steroid injection. No antibiotic administration was done except those developed any infection. All the cases were followed upto 3 months to recorded recurrence in both groups. The data was analyzed and required statistical tests were applied to know any significant difference between the two methods.

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RESULTS

Age distribution of the patients was done, it shows that 17(34%) in Group A and 21(42%) in Group B were between 20-40 years of age whereas 33(66%) in Group A and 29(58%) in Group B were between 41-60 years of age, mean±SD was calculated as 48.47±5.14 years in Group A and 46.23±6.78 years in Group B (Table 1). Gender distribution shows that 22(44%) in Group A and 20(40%) in Group B were male whereas 28(56%) in Group A and 30(60%) in Group B were females (Table 2). Rite site of ganglion was recorded as 32(64%) in Group A and 28(56%) while 18(6%) in Group A and 22(44%) in Group B cases involved left hand (Table 3). Frequency of recurrence after surgical excision versus aspiration and injection of steroid of wrist ganglion was recorded as 6(12%) in Group A and 29(58%) in Group B whereas 44(88%) in Group A and 21(42%) in Group B had no findings of recurrence, p value was 0.000 (Table 4).

Table 1: Age distribution (n=100)

Age (years)	Group A (n=50)		Group B (n=50)	
	No.	%	No.	%
20 – 40	17	34.0	21	42.0
41 – 60	33	66.0	29	58.0
Mean±SD	48.47±5.14		46.23±6.78	

Table 2: Gender distribution (n=100)

Gender	Group A (n=50)		Group B (n=50)	
	No.	%	No.	%
Male	22	44.0	20	40.0
Female	28	56.0	30	60.0

Table 3: Site of ganglion (n=100)

Site	Group A (n=50)		Group B (n=50)	
	No.	%	No.	%
Right	32	64.0	28	56.0
Left	18	36.0	22	44.0

Table 4: Frequency of recurrence after surgical excision versus aspiration and injection of steroid of wrist ganglion (n=100)

Site	Group A (n=50)		Group B (n=50)	
	No.	%	No.	%
Yes	6	12.0	29	58.0
No	44	88.0	21	42.0

P value=0.000

DISCUSSION

Ganglions are well-known tumor-like situation in wrist and hand. Usually, these arise from joint capsule or pedicle in tendon sheath. Around 60 to 70% ganglions are found present on dorsal site of wrist. Females are commonly affected during 2nd to 4th decade of life. Usually, patients prefer medical treatment due to avoidance of pain, and fear of surgery etc.

A previous study[7] reveals that 36% of the cases avoided surgery due to cosmetic effect and 26% pain, 28% for malignancy and 8% of the cases due to abnormal function. However, this study compared recurrence rate in patients undergoing aspiration and steroid injections versus surgical excision of wrist ganglion.

We recorded recurrence in 6(12%) in Group-A and 29(58%) in Group-B, p value was 0.000, these findings are consistent with the findings of a study at Glenfield hospital where 58% recurrence rate was recorded in patients managed with aspiration while 39% recurrence was recorded in patients undergoing surgical excision [8].

Another study recorded that success rate was 81.8% in surgical excision and only 38.46% in aspiration in combination with methyl prednisone acetate injection. Some-other trials claim that recurrence rate for dorsal ganglia in surgical incision therapy is less than 5% of the cases and 7% in volar wrist ganglion[9,10]. Zubowicz and others[11] reported only 15% recurrence rate in patients undergoing upto three times aspiration. They recorded that the failure was more with each succeeding aspiration, this fact was confirmed by other authors as well, who revealed no benefit of repeat aspiration[12,13].

A local study[14] concluded that aspiration and steroid injection is suitable for young females as surgical excision results in a bigger scar mark, however, being alternate method of treatment, aspiration and steroid injection may be offered to those focused on cosmetic effect. We endorse the above hypothesis, however, those concerned with successful removal of ganglion may be treated with surgical excision being its lower recurrence rate.

CONCLUSION

The successful rate of excision of a ganglion is significantly higher in surgical excision as compared to those undergoing aspiration and injection of steroid.

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