



COMPARISON OF ASPIRATION FOLLOWED BY INTRALESIONAL STEROID INJECTION AND SURGICAL EXCISION IN MANAGEMENT OF DORSAL WRIST GANGLION

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ABSTRACT **Background:** About 60-70% of ganglion cysts are found in dorsal part of the wrist. Dorsal carpal ganglion is one of the most common benign tumours of the hand. Many treatment modalities had been proposed and yielded the same success rate. This study compared aspiration followed by intra-lesional steroid (triamcinolone acetate) injection and surgical excision in the management of dorsal wrist ganglion.

Methods: From June 2019 to June 2020 in Department of General Surgery, King George Hospital, Visakhapatnam, India, 86 Patients with dorsal wrist ganglions were considered. Of them 62 patients underwent surgical excision and 24 patients underwent aspiration followed by intralesional triamcinolone injection.

Results: Subjects ranged between 16-48 years with mean age of 24.8 yrs. Females(68) outnumbered males(18) by ratio 3.78:1. The most common presenting symptom was pain in 52(60.46%), cosmetic in 49(56.98%), apprehension of tumor in 34(39.53%). Recurrence was the most common complication of treatment of ganglions. The success by excision was 85.4% and by aspiration combined triamcinolone was 75%.

Conclusion: Surgery is the most successful form of treatment when considering the cure rate of dorsal wrist ganglion in comparison to aspiration with intralesional steroid.

KEYWORDS :

INTRODUCTION

Carpal ganglion cyst is the most common benign soft tissue tumor. Approximately including 50-70% of the tumors of the hand and wrist area. Usually subside with rest, enlarge with activity, and rupture or disappear spontaneously. Generally seen between the second and fourth decades of life and are more prevalent in women.

Most common tumor like conditions in the hand and wrist. Usually arise from a pedicle in tendon sheath or joint capsule and located over scapholunate ligament. About 60-70% are found in dorsal aspect of the wrist. Treatment modalities include

1. Observation,
2. Aspiration,
3. Intralesional steroid injection,
4. Sclerotherapy and 5. Surgical excision,

but none of these modalities has been the standard or best treatment. As aspiration is still the mainstay of non operative management and most studies demonstrated an approximate success rate of 70%. To improve the results, treatment in aspiration is combined with steroid. We did this study to compare the effectiveness of the two traditional treatment methods for aspiration followed by intralesional steroid (triamcinolone acetate) injection and surgical excision.

MATERIALS AND METHODS

Study Time: JUNE 2019 TO JUNE 2020 **STUDY PLACE:** Department of General Surgery, King George Hospital, Visakhapatnam, India.

Study Population: 86 patients with clinical diagnosis of dorsal wrist ganglion were enrolled.

Inclusion Criteria:

Dorsal wrist ganglion of at least 1 cm in size, patients older than 15 years, and willingness for follow-up.

Diagnosis of ganglion was based on history and clinical examination. All patients were informed and explained about the lesion and their treatment plan. In some patients, radiological investigations like X-ray and ultrasonography were done to rule out other lesions

The patients were divided according to their treatment option into two groups. **Group A** included aspiration followed by intralesional steroid

(triamcinolone acetate) injection. **Group B** included surgical excision. In group A, under standard aseptic precautions, the ganglion was first infiltrated with 2% xylocaine using 26 G needle and then, aspiration was conducted by 18 G needle and injection of 40 mg triamcinolone acetate applying the same needle port and pre-filled syringe containing the diluted triamcinolone. Crepe bandage was used and the wrist was immobilized for 2 days.

In group B, the surgical excision was undertaken using similar standard aseptic precautions and after performing local infiltration of 10 mL of 2% xylocaine. In surgical procedure, the entire cyst complex including cyst, pedicle and a cuff of adjacent joint capsule was excised. Follow-up time was 1, 3, 6 and 12 months after treatment. Successful treatment was defined as disappearance of the cyst on final visit of the patient. In case of recurrence, treatment was defined as failure.





RESULTS:

Among the 86 patients, 68 (79.06%) were female and 18 (20.93%) were male patients, while the male/female ratio was 1/3.78.

The mean age was 24.8 years (Range: 16-48 years). Swelling was a common presentation in all subjects, other symptoms were

1. pain and discomfort in 52 (60.46%),
2. cosmetic in 49 (56.98%)
3. Apprehension of tumor in 34 (39.53%).

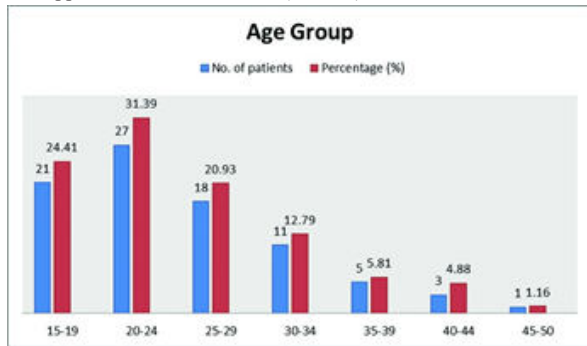


Figure 1: Age Group

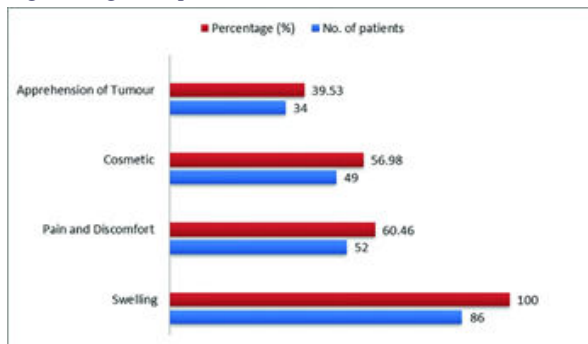


Figure 2: Clinical Features

Recurrence was the most common complication of treatment. Out of 86 patients, 62 (72.09%) were treated in group A with success rate of 75% and recurrence rate of 25%. In group B, 24 (27.90%) were treated with success rate of 85.4% and recurrence rate of 14.66%

Group	Sex	%	Success rate No. (%)	Recurrence rate No. (%)
A: Aspiration with intralesional triamcinolone acetonide injection	Male: 9	14.51	46(75%)	16(25%)
	Female: 53	85.48		
	Total: 62			
B: Surgical excision	Male: 9	37.5	20(85.4%)	4 (14.6%)
	Female: 15	62.5		
	Total: 24			

Table 1: The success and recurrence rates of all genders regarding both groups of patients

DISCUSSION

Carpal ganglion cyst is the most common benign soft tissue tumor. Approximately 50-70% of the tumors of the hand and wrist area. There are a number of treatment modalities for ganglion such as

1. Observation
2. Aspiration
3. Intralesional steroid injection
4. Sclerotherapy and surgical excision.

Mean age of our patients was 24.7 years. Our study involved 86

patients with a male/female ratio of 1/3.78. Similar results were obtained in western regions with a ratio of 1/3.1. Other studies from the British and African population groups reported a ratio of 1/1.4 and 1/1.5, respectively. Recurrence was the most common complication of treatment.

We found 25% recurrence with aspiration followed by steroid injection and 14.66% recurrence was noted after surgical excision.

Parwez Sajad khan et al. found excision to be superior than aspiration followed by steroid injection. Humail et al. reported a recurrence rate of 43% in aspiration and steroid injection and 24% in surgical excision for treatment of dorsal wrist ganglions. The maximum follow-up time was 1 year. Janson reported that most of the ganglia recurred in first 6 months period.

CONCLUSION

Although the aspiration, triamcinolone acetonide injection plus wrist immobilization is one of the alternative methods, surgery was the most successful form of treatment when considering the cure rate of dorsal wrist ganglion, though we analysed only a small group; our results can only be an indicator.

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