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A Comparative Study Between Aspiration Alone And Aspiration Combined With Intralesional Triamcinolone Acetonide Injection For Treatment Of Dorsal Wrist Ganglion In A Tertiary Care Hospital.

[1.] Dr. Mukul singh, [2.] Dr. Pankaj kumar verma
[1.] *Assistant professor,department of general surgery government medical college haldwani.*
[2.] *Associate professor,department of general surgery government medical college haldwani.*
Corresponding Author: Dr. Pankaj kumar verma

Abstract
Aim and Objective: *To compare the effect of aspiration withIntralesional Triamcinolone Acetonide Injection and aspiration alone in dorsal wrist ganglions.*
Material and Method: *This was a prospective study done from Aug 2014 to Aug 2016 in department of general surgery Dr. SusheelaTiwari Government Medical College and Hospital Haldwani, Nainital, Uttarakhand. a total number of 88 Patients with dorsal wrist ganglions were offered treatment in two groups: 1- aspiration alone in 48 patients, 2-aspiration withIntralesional Triamcinolone Acetonide Injectioninto the cyst in 40 patients. Follow up was done at 1, 3, 6 and 12 months.*
Results: *Successful treatment in group 1 was seen in 18 patients (37.5%), and in group 2 in 22 patients(55.%).*
Conclusion: *Injection ofIntralesional Triamcinolone Acetonidein dorsal wrist ganglion along with aspiration was associated with higher rate ofsuccessas compared to that of aspiration alone.*
Key words: *Aspiration,Intralesional Triamcinolone Acetonide,Dorsal Wrist Ganglion, GMC Haldwani.*

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I. Introduction

Ganglions are generally seen between the second and fourth decades of life and are more prevalent in women, Patients usually seek medical attention because of the pain, mass, weakness or fear of a malignancy.they are the most common tumor like conditions in the hand and wrist which usually arise from a pedicle in tendon sheath or joint capsule and located over scapholunate ligament. About 60% - 70% of ganglion cysts are found in dorsal aspect of the wrist. [1] A study conducted by Westbrook et al in 50 patients with ganglion found the following reasons for treatment: 36% about appearance, 28% about malignancy, 26% for pain, and 8% for abnormal function.[2]There are a number of treatment modalities forganglion such as observation, aspiration, intralesional steroid injection, sclerotherapy andsurgical excision, but none of these modalities has been the standard or best treatment.[3]

Aspiration has been reported to be effective in 20% - 30% of the patients.[1]Persistent and symptomaticganglionshave been best treated by Surgical excision.[1] aspiration is the mainstay of non operative managementat present and most studies demonstrate a success rate at 30% - 50%.[4,5]Aspiration combined with steroid injectionin the cystwall has been advocated bysome author'sto improve the results of treatment. In this study we have tried to compare the effectiveness of the two traditional methods of treatment for dorsal wrist ganglion.

II. Material And Method

This was a prospective study conducted from Aug 2014 to Aug 2016 in department of general surgery Dr. SusheelaTtiwari Government Medical College and Hospital Haldwani, Nainital, Uttarakhand. informed consent was taken from the patients and All patients were informed and explained about the lesion and their treatment plan. Diagnosis of ganglion was based on history and clinical examination. In some patients radiological investigations like X-ray and ultrasonography was done to rule out other lesions.Inclusion criteria were patients with dorsal wristganglions of atleast 1cm in size, and more than 15 years of age, history of trauma and previous treatment was ruled out and willing for follow-up. A total of 88 patients were divided according to their treatment option into two groups:

Group1. In supine position with wrist flexed, aspiration of the cyst and evacuation of the gelatinous fluid with needle No: 16, was performed.

Group2.Aspiration, then with the same needle in place,1 ml local anesthetic injection Xylocaine and 10 mg of triamcinolone acetonide was injectedinto the cyst.

Follow-up was done at 1, 3, 6 and 12 months after treatment. Successful treatment was defined as disappearance of the cyst on final visit. In case of recurrence treatment was defined as failure.

III. Results

A total of 88 patients were enrolled in our study. Table-A shows the frequency of the sex, and laterality in two groups. In relation to age, sex andlaterality of the lesion no significant difference was seenbetween two groups. No wrist stiffness or local infection was observed. Results of successful treatmentand recurrence has been shown in Table-B.

Table: A

GROUP	SEX	%	LATERALITY	FREQUENCY	%
1.ASPIRATIONALONE	MALE-40 FEMALE-8 TOTAL-48	83.3 16.7	Rt- Lt-	30 18	62.5 37.5
2.ASPIRATION WITH INTRALESIONAL TRIAMCINOLONE ACETONIDE INJECTION	MALE-30 FEMALE-10 TOTAL-40	75 25	Rt- Lt-	24 16	60 40

Table: B

GROUP	SUCCES RATE	RECURRENCE RATE
1.ASPIRATION ALONE	18 (37.5%)	30(62.5%)
2.ASPIRATION WITH INTRALESIONAL TRIAMCINOLONE ACETONIDE INJECTION	22 (55%)	18(45%)

IV. Discussion

Because of benign course of ganglions and spontaneous resolution in up to 50% of the patients, nonsurgical modalities of treatment including observation, aspiration, injection of steroid, hyaluronidase, or sclerosing solution are usually done initially for the lesion.[1,6]

Paramhans et al compared two methods aspiration followed by triamcinolone injection and surgical excision for treatment of wrist ganglions. They found a recurrence rate of 8.4% and 21.5% respectively and their conclusion was that intracystic steroid injection was a safe mode of treatment.[7]

Humail SM et al reported that the recurrence rate was 43% in aspiration and steroid injection and 24% in surgical excision for treatment of dorsal wrist ganglions.[8] On the other hand Limphayan et at in their study reported that the success rate by aspiration combined with methyl prednisolone acetate injection and wrist splint was 38.4%, and by excision was 81.8%.[9]

Ganglions have been treated by a variety of non operative and operative methods. Among non operative techniques, aspiration with or without intralesional steroid injection have been widely used. Recurrence is the most common complication of treatment of ganglions.In a report by Gerhard et al on 38 wrist ganglion they found that aspiration and observation was a better option than hyaluronidase injection or surgery.[10]

In our study, only the patients having ganglion at the dorsum of the wrist were included because it was the most common form of ganglion encountered in our outpatient department and the error that might occur in treatment between different sites was minimized.

The maximum follow-up time was 1 year. Janson reported that most of the ganglia recurred in first 6 months period [11].

Regarding the treatment modalities like aspiration or steroid injection for treatment of ganglion there are number of studies in the literature, and results of our study were more or less in accordance with those reported elsewhere.

Although aspiration followed by triamcinolone injection was associated with more success rate as compared to aspiration alone, however more studies with larger sample size analysis should be conducted to assess the effect of different treatment modalities for dorsal wrist ganglions.

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