



## Aspiration And Injection With Combination of Triamcinolone & Hyaluronidase is Easy, Safest And Effective Means for Treatment of Ganglia of Wrist

## KEYWORDS

Ganglion, Triamcinolone, Hyaluronidase

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**ABSTRACT** 121 (M=50, F=71) wrist ganglia were treated with aspiration and injection with Triamcinolone (kenacort) and Hyaluronidase (hynidase) at Katuri Hospital between 2008 to 2015 were studied. It is a simple out patient procedure with excellent results. The ease of giving Injection required minimum skill by the surgeon without the use of any local anaesthetic drugs. This procedure is cosmetic, cost effective and helps the patient to return to their work quickly. It has also the advantage of achieving high cure rates. 74 patients were followed up for a period of 2 years with a good cure rate of 88 %.

## Introduction

Ganglion is the most common soft tissue swelling in and around the wrist. It occurs most commonly on the dorsal side of the wrist (70%), followed by volar side (20%) of wrist. Majority of the ganglion present as painless swelling. Most patients seek attention because of the cosmetic appearance or they were concerned that their ganglion was a malignant growth [1]. Treatment options include reassurance, nonsurgical means like aspiration with or without steroid injections or hyaluronidase and surgical excision. We present the treatment of wrist Ganglion with Injection hyaluronidase and triamcinolone and documented its outcome in 121 cases. We also reviewed the literature to compare the cure rates and complications other procedures.

## METHODOLOGY

## Source of Data.

Patients presenting with Ganglion wrist in General Surgery OPD of Katuri medical Hospital, Guntur were included in the study. This is a randomized prospective study comprising 121 patients Ganglion wrist over a period April 2008 to April 2015.

## Method of collection of data

**Inclusion Criteria:** All patients coming to the surgical out-patient department at Katuri medical college and Hospital Guntur, with Ganglion wrist.

**Exclusion Criteria:** Recurrent Ganglion wrist.

## Procedure

Patients were subjected to Injection therapy after taking necessary consent.

In the minor operation theatre in General surgery OPD with the patients in supine position, under strict aseptic precautions the Ganglion wrist is pierced with 16G needle and gelatinous ganglion fluid aspirated. With tip of the 16G needle in situ in the ganglion cavity another 2ml Syringe containing a combination of Triamcinolone (kenacort) and Hyaluronidase (hynidase) is injected into the ganglion cavity & needle is taken out. Firm pressure dressing is applied over injected area of the ganglion which is kept for 24 hours. Patient is prescribed single dose Tab. Cefixime

200mg and Tab. Paracetamol 500mg. Patients were advised rest of the affected hand for 24 hours and told to report to General Surgery OPD next day for removal of pressure dressing.

## Observations

Majority of the patients were satisfied with the procedure because of its very short duration, cost effectiveness, minimum discomfort levels and quick return to work in 2 days time with an excellent cosmetic outcome which was well appreciated by younger age group patients.

**Results** A total of 121 (M=50, F=71) patients were subjected to Injection therapy and out of which 74 (M=28, F=43) patients were followed up over a period of 2 years and the following complications were documented.

Complication	Duration of Presenting complication	Number of patients (No. & %)
Recurrence	6-8 months	9 (12.1%) (M=2, F=7)
Mild Parathesia	1-2 months	2 (2.7%) (M=0, F=2)
Mild depigmentation at injection site	7-8 months	3 (4%) (M=1, F=2)
Thrombophlebitis at injection site	4-5 days	2 (2.7%) (M=0, F=2)
Pain	Immediate	1 (1.35%) (M=0, F=1)

## Discussion and Review of Literature

In our study we have documented a cure rate of 88 % after a follow up of 2 years in 74 cases. This Injection aspiration technique was simple, easy to perform and master. Combined usage of steroid and Hyaluronidase achieved a higher cure rate than aspiration alone. Most of the patients were satisfied with better cosmetic outcome and high cure rate of 88%. There were minimum post injection complications like Parathesia (2.7%), depigmentation (4%), thrombophlebitis (2.7%) and pain at injection site (1%)

Usage of 16G needle for aspiration of gelatinous content accomplished near complete aspiration of ganglion fluid which maybe very important in achieving high cure rates. Post Injection pressure bandage may help in the reduction

of residual dead space around involved tendon sheath, may create an ideal environment for the steroid and Hyaluronidase to exert their chemical action.

Most of patients with ganglion do not have symptoms besides swelling, while others may present with pain, weakness, or paresthesia. Barnes et al. reported in their review that only 19.5% had symptoms other than a mass [2]. Westbrook et al. also reported majority of patients sought advice and treatment because of the cosmetic appearance or they were concerned that their ganglion was a malignant growth, while only 26% consulted because of pain and 8% consulted altered sensation or restricted hand function [1].

Many patients did not seek any treatment if they are reassured of the benign nature of the disease. The spontaneous resolution rate of untreated ganglion ranged 40–58% [4–7]. Therefore reassurance can be the option if the patients do not want any intervention. In our study we have documented a cure rate of about 87% after a follow

Aspiration alone is one of the old procedures to treat ganglion with high recurrence rates. Most of the studies showed more than half of ganglion treated with aspiration alone will recur [6–17]. Many procedures have been practiced in order to increase cure rates. Zubowicz and Ishii reported a recurrence rate of 15% by repeated aspiration up to three times. However, they also noticed the successful rate decreased with those who needed repeated aspiration [10]. Multiple puncture of ganglion wall has not shown to improve the result of simple ganglion aspiration [12]. Becker suggested the use of steroid injection in treating ganglion, with 87% resolution rate.

The content of ganglion is very gelatinous, and thus aspiration may not be complete. The use of hyaluronidase, which depolymerizes the hyaluronic acid present in ganglion content. In our study we have used 16G needle for near total aspiration. Otu reported a 95% cure rate after a follow-up period of 6 months [16]. Paul and Sochart also showed that the use of hyaluronidase in conjunction with steroid has resulted in significantly higher resolution rate compared to the use of steroid alone, but only 49% of their patients treated by hyaluronidase and steroid had complete resolution, compared to 20% in those treated with steroid [15]. Akkerhuis et al., however, reported a recurrence rate of 77%, for treatment of ganglion with hyaluronidase [17]. Thus, the successful rate had been variable, and hyaluronidase may cause allergic reaction. In our study we have not reported any kind of anaphylaxis with injection hyaluronidase and steroid.

### Conclusion

Given that the majority of the patients sought treatment on cosmetic grounds our treatment of aspiration and combined injection with Triamcinolone (kenacort) and Hyaluronidase (hynidase) reported improved cosmetic outcomes along with a high cure rate of about 88%. Majority of patients had lower complication rates when compared to standard Surgical procedure which had higher rates of complication & morbidity. Therefore our study suggests aspiration & injection therapy with steroid and hyaluronidase as highly effective, affordable, simple, easy method with high cure rates offering excellent cosmetic value to the patients.

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