

Clinical Outcome of Aspiration and Steroid Injection in Dorsal Wrist Ganglion, a Prospective Study.

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Abstract

Background: Dorsal wrist ganglion is the most common benign tumor of the wrist and hand causing pain and cosmetic deformity. Ganglions are commonly treated by aspiration followed by steroid injection, and surgical excision. Complete aspiration of the gelatinous material followed by intracystic injection of triamcinolone has shown encouraging results.

Aim: To assess the clinical outcome of aspiration and steroid injection in dorsal wrist ganglion.

Material and Method: A prospective study was conducted on 50 patients attending outpatient department with dorsal wrist ganglion who underwent aspiration followed by intracystic instillation of triamcinolone. The patients were followed for 1 year to note the outcome.

Results: Of 50 patients included in this study, 68% were females and 32% were males. The mean age of the patients was 34.55 years. The overall recurrence rate in this series was 24%. 2% patient developed hypopigmentation at the injection site. There was no case of infection or tendon rupture.

Conclusion: Aspiration and steroid injection is a safe and effective method of treatment for dorsal wrist ganglion.

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I. Introduction

Ganglion is a common benign soft tissue tumor of hand and wrist, and is commonly encountered by orthopaedic surgeons on outpatient basis. The most common location for wrist ganglion is the dorsal aspect of the wrist (60% - 70%). Ganglions are most commonly seen in young adults and affects females more so than males.¹ The exact etiology of the ganglion is still unknown, although some patients do have a history of preceding trauma to the site but majority of the patients do not have any prior inciting event.

Ganglions are cystic swellings that are often multilobulated on gross examination. Microscopically, this cystic wall is composed of multiple layers of collagen fibers that are haphazardly oriented. Ganglion is not a true cyst as it lacks the epithelial lining like that of a synovial tissue.² The cyst contains a clear gelatinous material containing hyaluronic acid, glucosamine, albumin and globulin.³

The patients usually present with pain at wrist which sometimes radiates to the arm, decreased grip strength, decreased range of motion and cosmetic issues.⁴ Various treatment options for dorsal wrist ganglion includes reassurance⁵, aspiration alone⁶⁻⁸, aspiration and steroid injection^{5,9-12} and surgical excision of the cyst¹³⁻¹⁶.

II. Material and Method

The present study is a prospective study consisted of 50 patients attending the outpatient department with dorsal wrist ganglion from January 2018 to August 2019 and was carried out in Hospital for Bone and Joint Surgery, Government Medical College Srinagar. All patients with clinically documented dorsal wrist ganglion were included in the study irrespective of gender and age. The patients who had received earlier interventions of any form for the present condition, or those with bleeding disorders or uncontrolled blood sugar were excluded from this study. A thorough history was obtained and clinical examination was done. A written informed consent was obtained from all the patients. All the patients underwent aspiration and steroid injection on outpatient basis.

In all the patients, the ganglion was aspirated under aseptic conditions with 18G intravenous cannula and 10 ml syringe. The volume of gelatinous material aspirated was noted and the intracystic triamcinolone acetate 40mg (Tricort-40) was injected through the same cannula. Compressive bandage was applied for 24 hours. The patients were followed up at 2 weeks, 3 months and 6 months after their initial treatment. Final follow up was done at 1 year after initial treatment.



III. Results:

There were total of 50 patients included in our study. The mean age of the patients was 34.55 years with age ranging from 18 years to 57 years. Of 50 patients, 34 (68%) were female and 16 (32%) were male showing female preponderance. Right wrist was involved in 29 (58%) patients and left wrist in 21 (42%) patients. There was mild local pain post injection in 12 (24%) patient for first 24 hours which responded well to oral analgesics. There was hypopigmentation at the injection site in 1 patient. None of the patients had any restriction of wrist joint movement. There was no case of infection or tendon rupture in any of our patients. There was recurrence of the ganglion in 12 (24%) patients.

Table: Results

Demography	Age range (mean)	18-57 years (34.55 years)
	Males	32%
	Females	68%
	Right wrist	58%
	Left wrist	42%
Outcome	Cure rate	76%
	Recurrence rate	24%
Complications	Hypopigmentation	2%
	Infection	0%
	Tendon rupture	0%

IV. Discussion:

Dorsal wrist ganglion are mucin containing cysts which may be either unilobulated or multi-lobulated. They represent 70% of all soft tissue tumors of the hand and wrist.¹ They are more common in third and fourth decade of life, although they may affect any age group. Treatment options ranges from conservative to surgical excision. Aspiration and steroid injection is a successfully practiced method of conservative management of dorsal wrist ganglion. In the present study, the mean age of patients was 34.55 years which was consistent with other studies.^{1,2} There was female predominance in affected individuals and right wrist was slightly more affected than the left wrist. These findings were consistent with previous studies in the literature.^{2,9} In our study, the recurrence rate after aspiration and steroid injection at final follow up was 24 %, which was comparable with other studies in the literature.^{9,10}

V. Conclusion:

Based on the results of our study, we conclude that aspiration and steroid injection is a safe and effective method of treatment for dorsal wrist ganglion. It can be easily performed on outpatient basis and so does not require hospitalization. It is cost effective and has minimal complications and thus easily acceptable to the patients.

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