



EVALUATION OF NONSURGICAL MANAGEMENT OF DORSAL WRIST GANGLION AT NALANDA MEDICAL COLLEGE AND HOSPITAL, PATNA

General Surgery

Raj Shekhar*	Senior Resident, Department of General Surgery, Nalanda Medical College and Hospital, Patna, Bihar, India. *Corresponding Author
Rakesh Kumar	Senior Resident, Department of General Surgery, Nalanda Medical College and Hospital, Patna, Bihar, India
V.K. Gupta	Associate Professor, Department of General Surgery, Nalanda Medical College and Hospital, Patna, Bihar, India
Santos Kumar	Postgraduate Student, Department of General Surgery, Nalanda Medical College and Hospital, Patna, Bihar, India

ABSTRACT

BACKGROUND: Dorsal wrist ganglions are one of the most common wrist swellings encountered in surgical OPDs. The aim of this study is to assess the efficacy of nonsurgical management of dorsal wrist ganglion.

METHODS: A total of 60 patients who presented with complain of swelling over wrist and diagnosed with dorsal wrist ganglion were included. Patients with previous history of trauma or treatment were not included. They were randomized in two groups with each group undergoing aspiration and injection treatment with Triamcinolone Acetonide and sclerosant Polidocanol respectively. The primary objective was the disappearance of ganglion cyst at 3 months interval post treatment.

RESULTS: In our study, among the two groups treated with nonsurgical methods of aspiration and injection of Triamcinolone Acetonide and sclerosant Polidocanol respectively, both groups showed comparable results with success rate of 70% in the 1st group and 73.3% in the 2nd group.

CONCLUSION: Non-surgical methods for treatment of dorsal wrist ganglion is an effective, less time-consuming procedure which can be done on OPD basis.

KEYWORDS

Ganglion; Triamcinolone Acetonide; Sclerotherapy; Polidocanol

INTRODUCTION

Dorsal wrist ganglions are one of the most common wrist swellings encountered in surgical OPDs. These usually arise from tendon sheath or joint capsule and are located over scapholunate ligament. About 60–70% ganglion cysts are found on dorsal aspect of the wrist. Ganglia can follow local trauma to the tendon or joint, but usually has unknown reasons.¹ Ganglions most frequently arise adjacent to joints and tendons, but may also be intra-tendinous or intra-osseous.² Patients usually seek medical treatment because of the mass, pain, weakness, or fear of a malignancy.^{3,4} Westbrook et al⁵ conducted a study on 50 patients with ganglion cysts and found the following reasons for treatment: 36% for cosmetic appearance, 28% for malignancy, 26% for pain, and 8% for abnormal function. There are a number of treatment modalities for ganglion cysts. These include nonsurgical methods like intralesional steroid injection, sclerotherapy, or surgical excision. However, none of these modalities has been proven to be the standard or best treatment. Surgical excision is best reserved for patients with persistent symptomatic ganglions.² This clinical study is aimed to study the efficacy of nonsurgical methods in the treatment of patients with dorsal wrist ganglion.

METHODS

A prospective randomized control trial study of 60 patients who attended surgical OPD, in Nalanda Medical College & Hospital with complain of swelling over wrist and diagnosed to be having dorsal wrist ganglion clinically was conducted during a period from November 2017 to January 2020. FNAC was done in few doubtful cases as additional measure to confirm the diagnosis.

Inclusion Criteria was patients with age ≥ 18 years with dorsal wrist ganglion of size ≥ 1 cm, no history of prior trauma or treatment and willing to participate voluntarily in the study and ready for follow up. Pregnant females, any history of allergy to sclerosant were excluded. For study purpose patients were randomized and divided into two groups of 30 patients each.

Group A (n=30): patients were treated in supine position. Two 16-18 gauge needles were inserted simultaneously in the ganglion swelling, contents of the cyst were aspirated with one needle and 40 mg Triamcinolone Acetonide was injected into the cyst with the second needle.

Group B (n=30): patients were treated in supine position. Two 16-18

gauge needles were inserted simultaneously in the ganglion swelling, contents of the cyst were aspirated with one needle and 30mg inj. Polidocanol 3% was injected into the cyst with the second needle.

Pressure bandage was applied and was removed after 72 hrs of treatment. Patients were reviewed at 2 weeks, 1 month and 3 months. Occurrence of pain at local site of injection, any skin changes and size of cyst was evaluated. Success was defined as disappearance of the cyst at final visit. In case of recurrence or persistence of cyst, treatment was defined as failure. Statistical data were analysed using the SPSS software.

RESULTS

The mean age of the study subjects was 30.03 years (18–48 years). There were 42 (77.3%) females and 18 (22.7%) males. The cysts were found in 31 patients on the right wrists and 29 on the left wrists. Table 01 shows the frequency of sex and side of involvement in two groups. Results of success and recurrence rate are shown in Table 02.

Table 01: Distribution of patients in two groups

Patient category	Sex	Frequency	Percentage	Side	Frequency	Percentage
Group A (n=30)	Female	23	76.6	Right	17	56.6
	Male	7	23.4	Left	13	43.4
Group B (n=30)	Female	19	63.3	Right	14	46.7
	Male	11	36.7	Left	16	53.3

Table 02: Result of the study

Patient category	success	Percentage	Recurrence/persistence of cyst	Percentage
Group A (n=30)	21	70	9	30
Group B (n=30)	22	73.3	8	26.7
Total (n=60)	43	71.6	17	28.4

Temporary injection site mild pain and discomfort was the only complication found during treatment in few patients which subsided with analgesics. No local infection or wrist stiffness was observed.

DISCUSSION

Patients with wrist ganglions seek treatment mostly for cosmetic

reason and less commonly for pain or fear of malignancy. Because of benign course and spontaneous resolution in up to 50% of these patients, nonsurgical modes of treatment including simple observation, finger pressure, aspiration, injection of steroid, hyaluronidase, or sclerosing solution are usually advised initially for this lesion.^{4,6} Among nonoperative techniques, aspiration with intralesional steroid injection or sclerotherapy has been widely used. Recurrence is the most common complication of treatment of ganglions. Ho et al⁷ concluded that sclerotherapy may be an alternative to surgery in the treatment of ganglions.

In our study, among the two groups treated with nonsurgical methods of aspiration and injection of Triamcinolone Acetonide and sclerosant Polidocanol respectively, both groups showed comparable results with success rate of 70% in the 1st group and 73.3% in the 2nd group. The *p*-value was .774499 and the result was not significant at *p* < .01. In a study⁸ the success rate of aspiration with Triamcinolone Acetonide injection plus wrist immobilisation was 61.1%. Thus, the results of our study were comparable to the previous study.

Paramhans et al⁹ compared two methods of 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 concluded that intracystic steroid injection into the cyst was a safe mode of treatment.

CONCLUSION

Non-surgical methods for treatment of dorsal wrist ganglion is an effective, less time-consuming procedure which can be done on OPD basis. It is more acceptable to the patients keeping in mind the surgical complications like joint stiffness which is more prone to occur after surgery. The results of this study demonstrate that this can be offered as 1st modality of treatment option for patients with dorsal wrist ganglion with surgery being reserved only for the recurrent and difficult to treat cases.

ACKNOWLEDGEMENTS

NA

REFERENCES

1. Ahn JH, Choy WA, Kim HA. Operative Treatment for Ganglion Cysts of the Foot and Ankle. *J Foot Ankle Surg* 2010; 49: 442-5.
2. Rathod CM, Nemade AS, Badole CM. Treatment of dorsal wrist ganglia by transfixation technique. *Niger J Clin Pract* 2011; 14: 445-8.
3. Calandruccio JH, Jobe MT. Tumors and tumorous conditions of the hand. In: Terry S, Beatty CJHI (eds). *Campbell's operative orthopaedics*. 11th edn. USA: Mosby, 2008: 4330-4331.
4. Athanasian EA. Bone and soft tissue tumors. In: Wolf SW, Hotchkiss RN, Pederson WC, Kozin SH. *Green's operative hand surgery* (vol 2). New York: Elsevier Churchill Livingstone, 2011: 2150-2156.
5. Westbrook AP, Stephen AB, Oni J, Davis TR. Ganglion: the patient's perception. *J Hand Surg (Br)* 2000; 25: 566-567.
6. Singhal R, Angmo N, Gupta S, Kumar V, Mehtani A. Ganglion cysts of the wrist: a prospective study of a simple outpatient management. *Acta Orthop Belg* 2005; 71(5): 528-534.
7. Ho PC, Griffiths J, Lo WN, Yen CH, Hung I K. Current treatment of ganglion of the wrist. *Hand Surg* 2001; 6(1): 49-58.
8. Khan PS, Hayat H. Surgical excision versus aspiration combined with intralesional triamcinolone acetonide injection plus wrist immobilization therapy in the treatment of dorsal wrist ganglion; a randomized controlled trial. *J Hand Microsurg* 2011; 3: 55-7.
9. Paramhans D, Nayak D, Mathur RK, Kushwah K. Double dart technique of instillation of triamcinolone in ganglion over the wrist. *J Cutan Aesthet Surg* 2010; 3(1): 29-31.