ORIGINAL ARTICLE

Excision of Dorsal Wrist Ganglia Under Local Anesthesia with Adrenaline without Tourniquet, and with Evacuation of the Cyst During Dissection for The Ease and Completeness of the Excision

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ABSTRACT

Aim: To introduce and evaluate an easy and safe operative procedure with comparable good results under local anesthesia in the surgery of wrist ganglia as compared to the common treatments like aspiration, arthroscopic resection and open excision under general anesthesia and tourniquet. There is a wide variation in the results reported by different treatments options and the general anesthesia and tourniquet is also prone to a lot of complications. The purpose was to avoid these complications and do the surgical procedure under local anesthesia and as a day case procedure.

Methods: We excised dorsal wrist ganglia under xylocaine with adrenaline and without the use of tourniquet. For the ease of dissection the cyst was punctured and drained during the dissection. The results of the surgery at Avicenna Medical College and at Laser Looks Jail Road Lahore were recorded between January 2013 and March 2015.

Results: The 50 patients included in this study were followed after surgery on an average for 6 months. The recurrence rate after surgery in this series was 2%,tender scar was 8% and unsatisfaction with the scar was 10%. This study showed that the surgical excision of wrist ganglia when performed under local anesthesia with this new technique is very effective.

Conclusion: We propose that for symptomatic ganglia the surgeons with sufficient experience in performing local anesthesia procedures should use this technique as it reduces the anesthesia related complications, shortens the hospital stay and is more cost effective. And because unsatisfaction with the scar is a major complication so surgeons who also give cosmetically good scar should perform it.

Keywords: Wrist ganglia, Patient satisfaction, Recurrence

INTRODUCTION

Ganglions are mucin filled cysts which may be uni or multi lobulated. They are the most common soft tissue tumors of the hand, representing up to 70% of all such tumors. Dorsal wrist ganglia represent 70% of all ganglia and volar wrist ganglia up to 20%[1] Different treatments for wrist ganglia have been described and are varied like reassurance, aspiration, arthroscopic resection and open excision.[2-6]Open excision was usually carried out under GA and tourniquet for bloodless field and ease of dissection.

We excised dorsal wrist ganglia under xylocaine with adrenaline(for vasoconstriction) and without the use of tourniquet.For the ease of dissection and completeness of the excision cyst was also punctured and drained during the process of dissection.

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METHODOLOGY

This study comprised 50 patients. The results of the surgery at Avicenna Medical College and at Laser looks Jail Road Lahore were recorded between January 2013 to March 2015. Surgery was performed at the Avicenna Medical College Lahore and at Laser Looks Lahore by me and junior surgeons with special interest in Plastic Surgery. The patients included in the study were the patients with dorsal wrist ganglia regardless of the age. The mean follow up was 6 months .and the patients treated previously with any other modality of treatment was excluded from the study. We excised dorsal wrist ganglia under xylocaine with adrenaline and without the use of tourniquet. We used xylocaine diluted to 0.5% and 1 in 100000 adrenaline fluid for anesthesia and vasoconstriction. After excision of Ganglion the wound was closed in layers. Subcutaneous with 4/0 vicryl and the skin with 4/0 proline subcuticular stitches. During the course of dissection we injected the freeze fluid where ever required with 27 G needle. For the ease and completeness of the excision we punctured and evacuated the ganglion

cyst during the dissection. The presence of branches of the superficial radial nerve in the region may create difficulties during the dissection due to pain. Therefore if the patient feels pain during surgery it may lead to incompleteness of the excision. So a good skill to inject the freeze fluid properly is necessary for a successful excision. Patients were evaluated through OPD and telephonic follow up using an electronic patient database. The patients included in the study were patients with dorsal wrist ganglia regardless of the age. The mean follow up after surgery was6 months and the patients treated previously with any other modality of treatment were excluded from the study.

RESULTS

The overall recurrence rate following excision of all wrist ganglia in this series was 1 patient(2%), tender scar4patients(8%) and unsatisfaction with the cosmetic appearance of the scar (wide or tethered scar) was 5 patients (10%) [Table 1, Figs. 1-4].

Fig. 1: Freeze fluid

Fig. 2**:**Needle 27 G and blade 15

Fig. 3**:**Dorsal wrist ganglion

Fig. 4: After excision under local anesthesia with adrenaline showingblood less field and completeness of the excision

Table 1: Complications of technique (n=50)

Level of satisfaction	**NO.**	**%**
satisfactory	40	90
Recurrence	1	2.0
Scar Tenderness	4	8.0
Unsatisfaction with the scar cosmetically	5	10.0

DISCUSSION

Ganglions are cysts filled with mucin. Ganglions may be unilobulatedor multi lobulated cysts and are associated with either the capsule of the wrist joint or the sheath of tendons. They are the commonest benign tumors of the hand accounting for up to 70% of all such tumors. “Dorsal wrist ganglia represent 70% of all ganglia”.[1]They are more common in the twenties to forties however may affect any age group.

Incidence in males is 25/100,000 and in females 43/100,000. Prevalence is 19% in patients reporting wrist pain and 51% in the asymptomatic population.[7]

Ganglion size may fluctuate at times and may restrict wrist movement. The main options for the treatment of wrist ganglia are reassurance,[2]aspiration with[2–6]or without[8-10] injection of various agents, arthroscopic resection[11–14]or open excision.[13,15–18]The literature indicates widespread variability in the results reported.

The indications for ganglion excision include pain, interference with activity, nerve compression or patient request[14].

Open excision of ganglia have generally been thought to offer good results perhaps on the basis of angelides and Wallace's study[15]reporting a 1% recurrence rate following 346 dorsal wrist ganglion excisions. Clay and Clement[16]had a similar low recurrence rate of 3% following 62 dorsal ganglion excisions.

A wide variation in the results reported in the treatment of wrist ganglia shows that the management of wrist ganglia is not very easy.The excision of wrist ganglia remains a challenging procedure. Excision of the wrist ganglion must be complete up to the base of its origin. Excision of wrist ganglions must be done after informed consent.

Surgeons with a good experience in hand and wrist surgery should perform the procedure. A plastic surgeon or a surgeon taking care of scar cosmoses is preferred.

CONCLUSION

This study showed that the surgical excision of wrist ganglia when performed under local anesthesia with this new technique is very effective and the results are encouraging and promising. We propose that for symptomatic ganglia the surgeons with sufficient experience in performing local anesthesia procedures should use this new technique as it reduces the anesthesia related complications, shortens the hospital stay and is more cost effective. And because unsatisfaction with the scar is a major complication so surgeons who also give cosmetically good scar should do surgery with this new technique.

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