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Case Study

OPEN SURGICAL EXCISION WITH ADJUNCT AYURVEDIC POSTOPERATIVE MANAGEMENT IN DORSAL WRIST GANGLION CYST

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ABSTRACT

Ganglion cysts are frequently seen benign swellings occurring near joints and tendon sheaths, commonly over the dorsal aspect of the wrist. These swellings are usually painless but may gradually enlarge and interfere with wrist movements. The present case report describes the successful management of a dorsal wrist ganglion cyst using open surgical excision followed by Ayurvedic postoperative care. A 25-year-old male attended the Shalya Tantra outpatient department with complaints of swelling over the dorsal side of the left wrist for 5 years. Gradual increase in size was noticed during the previous 4 months, along with mild difficulty during wrist movements. Clinical examination showed a smooth, non-tender, cystic swelling measuring approximately 2×2cm with positive transillumination test. The lesion was clinically diagnosed as a dorsal wrist ganglion cyst. The cyst was excised completely under local anaesthesia through a vertical incision. Thick jelly-like material was observed within the cyst cavity. Complete removal of the cyst along with its pedicle was performed, followed by marsupialisation of the residual wall. Postoperatively, *Triphala Guggulu*, *Gandhaka Rasayana*, and *Haridra Khanda* were administered internally, while local dressing with *Jatyadi Taila* was carried out for wound healing. Healthy wound healing with minimal scar formation was observed. Wrist movements improved after suture removal, and no recurrence was noted during follow-up. The outcome of this case indicates that surgical excision supported by Ayurvedic postoperative management may help achieve satisfactory recovery in dorsal wrist ganglion cyst.

INTRODUCTION

Ganglion cysts are commonly encountered benign swellings arising near joints or tendon sheaths, especially around the wrist region.[1] These lesions contain thick gelatinous material and are most frequently observed over the dorsal aspect of the wrist adjacent to the scapholunate joint.[2] Among all soft tissue swellings of the hand and wrist, ganglion cysts represent the highest proportion.[3] They are commonly seen in young adults and may remain unnoticed for years because many patients initially experience no pain or major functional difficulty.

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The exact cause of ganglion cyst formation is still not completely understood. Repeated minor trauma, chronic strain over wrist ligaments, and degeneration of connective tissue are considered important contributing factors.[4] Continuous stress around the joint capsule may stimulate the production of mucin-rich fluid, which gradually accumulates and forms a cystic swelling. Histologically, these cysts possess a fibrous wall and contain clear, viscous material rich in hyaluronic acid.[5]

Clinically, patients generally present with a localised swelling that is smooth, rounded, and non-tender. The consistency is often firm or rubbery, and transillumination is usually positive.[6] Although many ganglion cysts are painless, some individuals may complain of discomfort during wrist movements, reduced grip strength, or cosmetic dissatisfaction.[7] Conditions such as lipoma, tenosynovitis, giant cell tumour of the tendon sheath, epidermoid cyst, dermoid cyst, carpal boss, haemangioma, abscess, and

schwannoma should be considered during differential diagnosis.[8]

Diagnosis is mainly based on clinical examination, while imaging investigations such as ultrasonography or magnetic resonance imaging may help in doubtful cases.[9] Management depends upon symptoms, size, and patient preference. Conservative approaches, including observation or aspiration, may be attempted; however, recurrence is frequently reported after nonsurgical treatment. Surgical excision remains the preferred option in symptomatic or persistent cases because complete removal of the cyst and its stalk reduce recurrence and improves functional outcome.[10]

According to Ayurvedic principles, such cystic swellings may be correlated with *Kaphaja Granthi* or *Snayu Granthi*, where vitiated *Kapha dosha* affects soft tissues and tendon-related structures.[11] Ayurvedic postoperative care aimed at wound cleansing and tissue healing may support recovery and help achieve satisfactory healing.

This case report presents the successful management of a dorsal wrist ganglion cyst in a 25-year-old male treated with open surgical excision followed by adjunct Ayurvedic postoperative care with a favourable clinical outcome and absence of recurrence during follow-up.

Case Presentation

A 25-year-old male presented to the Shalya Tantra OPD with complaints of a swelling over the dorsal side of the left wrist for the past 5 years. According to the patient, the swelling was initially small in size and painless, but had shown gradual enlargement during the last 4 months. Mild difficulty while moving the wrist was noticed for 2 months. There was no history of trauma, discharge, fever, tingling sensation, numbness, or loss of hand function.

The patient was working in business management. There was no history of diabetes mellitus, hypertension, previous surgery, chronic illness, or any form of addiction.

Local Examination

Examination revealed a solitary swelling situated on the dorsal aspect of the left wrist joint measuring nearly 2×2cm. The swelling was smooth in surface and slightly firm with rubbery consistency. It was non-tender on palpation and mobile over deeper structures. The overlying skin appeared normal without redness or ulceration. The transillumination test was positive. Mild discomfort during wrist movements was present, but no major restriction of movements was observed. Distal vascularity and sensations were intact.

Ashtavidha Pariksha

Parameter	**Findings**
Nadi	*Vata-Kapha*
Mutra	Normal
Mala	Normal
Jihva	*Sama*
Shabda	Normal
Sparsha	*Sheeta*
Drik	Normal
Aakruti	*Madhyama*

Considering the clinical findings, differential diagnoses such as tenosynovitis, lipoma, giant cell tumour of tendon sheath, epidermoid cyst, dermoid cyst, synovial cyst, carpal boss, haemangioma, abscess, and schwannoma were considered. Based on examination, the lesion was diagnosed as a dorsal wrist ganglion cyst.

Operative Management

After obtaining informed written consent, the patient was prepared for surgical excision under local anaesthesia.

The patient was placed in the supine position with the affected upper limb supported comfortably. After proper painting and draping under aseptic precautions, local anaesthesia was infiltrated around the lesion. A vertical incision was made over the swelling on the dorsal wrist region. The incision was deepened carefully through subcutaneous tissue while preserving nearby tendons, vessels, and nerve structures.

On exploration, a cyst containing thick, jelly-like, transparent material was identified. Gentle blunt dissection was carried out around the cyst wall, and the lesion was separated from the surrounding tissues. The cyst, along with its pedicle, was excised completely from the base. Marsupialisation of the residual cyst wall was done to reduce the chances of recurrence.

The wound was washed thoroughly with normal saline, and proper haemostasis was achieved. Subcutaneous tissue was approximated using Vicryl 3-0, and skin closure was done with Ethilon 3-0 using horizontal mattress sutures. Betadine ointment was applied locally and a sterile dressing was placed.

The entire procedure was completed without complications, and the patient tolerated the surgery well. (shown in Fig 1 and Fig 2)

Postoperative Ayurvedic Management

Along with routine postoperative care, Ayurvedic medicines were prescribed to promote wound healing and tissue recovery.

***Shaman Chikitsa* (Internal Medicines)**

Medicine	Dose	Duration
Triphala Guggulu	500mg twice daily	10 days
Gandhak Rasayan	250mg twice daily	10 days
Haridra Khanda	5gm twice daily	10 days

***Bahya Chikitsa* (External Treatment)**

Daily dressing with *Jatyadi Taila* was carried out after 10 days of suture removal for better healing and reduction of scar formation.

OBSERVATION

Clinical Features	Before Treatment	After Treatment
Swelling	Present	Absent
Pain	Absent	Absent
Difficulty in wrist movement	Mild	Reduced
Transillumination	Positive	Negative
Wound healing	—	Satisfactory
Scar	—	Minimal
Recurrence	Present	Not observed

Follow-Up

The patient was reviewed once every 7 days. Wound healing was satisfactory without discharge, infection, or wound dehiscence. Sutures were removed on the 14th postoperative day. Improvement in wrist movements was noted after 2 weeks. During follow-up, no recurrence of the swelling was observed and only minimal scar formation remained.

DISCUSSION

The present case involved a cystic swelling over the dorsal aspect of the left wrist, which had been present for several years and gradually increased in size. Clinical features such as soft cystic consistency, non-tender nature, and positive transillumination were suggestive of a ganglion cyst. Mild difficulty during wrist movements was also present.

Considering the chronicity of the lesion and the increase in size, surgical excision was planned. During the procedure, the cyst was carefully dissected from the surrounding tissues and completely removed from its attachment. Proper removal of the cyst wall and pedicle is important to minimise recurrence. In the present case, healing was satisfactory, and no recurrence was seen during follow-up.

According to Ayurvedic understanding, the condition can be correlated with *Kaphaja Granthi* involving vitiation of *Kapha Dosha* affecting soft tissue structures around the wrist region. Hence, along with surgical management, Ayurvedic medicines were advised in the postoperative period to support *Vrana Ropana* and reduce local tissue reaction after surgery.

Triphala Guggulu was prescribed because of its *Shothahara* and *Lekhana* properties. It is commonly used in conditions involving swelling and unhealthy tissue growth.[12] The formulation may have helped in reducing postoperative inflammation and supporting wound healing.

Gandhaka Rasayana was administered considering its *Rasayana* and *Krimighna* actions.[13] It is traditionally indicated in *Dushta Vrana* and chronic inflammatory conditions. The formulation may have assisted in healthy tissue repair and prevention of wound complications.

Haridra Khanda was added due to the presence of *Haridra*, which possesses *Shothahara* and *Krimighna* properties.[14] It may have contributed to the reduction of inflammatory changes and improved recovery.

Local dressing with *Jatyadi Taila* was done regularly after the removal of the suture. Due to its *Vrana Shodhana* and *Vrana Ropana* properties, it may have helped in the proper healing of the surgical wound and the prevention of *Vrana Dushti*.[15] Healthy wound healing with minimal scar formation was observed in this case.

The patient showed improvement in wrist movements after suture removal, and no recurrence was noted during the follow-up period. The outcome observed in this case indicates that surgical excision combined with supportive Ayurvedic postoperative care may provide satisfactory recovery in dorsal wrist ganglion cyst.

CONCLUSION

Open excision of the dorsal wrist ganglion cyst resulted in satisfactory functional and cosmetic outcome without recurrence during follow-up. Postoperative Ayurvedic management supported

uncomplicated wound healing, early recovery of wrist movements, and minimal scar formation.

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