Case Report

Synovial Sarcoma of the Wrist Mistaken for a Ganglion: Lessons from a Whoops Procedure

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Abstract

Synovial sarcoma is a rare soft tissue malignancy that can mimic benign lesions, leading to diagnostic dilemmas. We present a 57-year-old male with a recurrent dorsal wrist mass initially managed as a ganglion cyst through aspiration and two excisions without imaging or histopathology. Biopsy during the third excision revealed synovial sarcoma and was referred to us. After staging confirmed localized disease, wide resection and reconstruction was performed, followed by adjuvant chemo-radiotherapy. Two years postoperatively, the patient remains disease-free. This case highlights the risk of "whoops" procedures and the need for proper preoperative evaluation of wrist masses.

Keywords: Synovial sarcoma, wrist mass, ganglion cyst, whoops procedure, reconstruction

Introduction

Synovial sarcoma comprises approximately 5–10% of soft tissue sarcomas and typically affects adolescents and young adults.[1] However, it can present in older individuals and in uncommon sites, such as the wrist, where its indolent nature and benign appearance can lead to misdiagnosis.[2] Ganglion cysts are the most common soft tissue masses of the wrist and are usually managed by aspiration or excision without extensive evaluation.[3]

The term "whoops procedure" refers to the unplanned excision of a malignant lesion under the presumption of a benign one, leading to contamination of surgical planes and increased risk of recurrence.[4] This case underscores the critical importance of thorough preoperative imaging and histological confirmation in all atypical or recurrent soft tissue lesions, especially in anatomically complex areas like the wrist.

Case Report

A 57-year-old male presented with a history of a recurrent, dorsal left wrist swelling for six months, initially painless, now associated with pain. He had undergone aspiration and two times surgical excisions at an outside facility, each time under the assumption of a ganglion cyst. No ultrasonography, MRI, or histopathology was performed during the first two interventions.

On third recurrence, excision was again performed, but this time a biopsy

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was submitted. Histopathological analysis revealed biphasic synovial sarcoma. The patient was referred to our institution for further evaluation and management.

Clinical examination showed a swelling over the dorsum of the left wrist. MRI revealed a residual soft tissue mass infiltrating the dorsal carpal ligaments and extensor compartments. Staging with CT scan showed no metastases.

We performed wide resection of the mass followed by complex reconstruction. The dorsal wrist capsule, intercarpal ligaments, and parts of extensor tendons of index to little fingers had to be resected along with the sarcoma.

Complex soft tissue and functional reconstruction included: (a) ligamentous and capsular reconstruction using tensor fascia lata (TFL) graft from the right thigh, (b) tendon reconstruction for four slips of extensor digitorum communis (EDC) using autografts from palmaris longus and flexor digitorum superficialis (FDS) of the middle finger to restore finger extension, and (c) soft tissue coverage with a pedicled reverse radial forearm flap and split-thickness skin graft (STSG) from the right thigh on the flap donor site.Postoperative recovery was uneventful. Sutures were removed in 3 weeks. The patient was splinted for 4 weeks followed by gradual physiotherapy and exercises.

Final biopsy report revealed recurrent synovial sarcoma and all margins are free of tumour invasion. The patient then received adjuvant radiotherapy and chemotherapy. At two years post-surgery, he remains disease-free, with preserved wrist motion and no functional limitation in daily activities.



Figure 1: Recurrent mass over dorsum of the left wrist

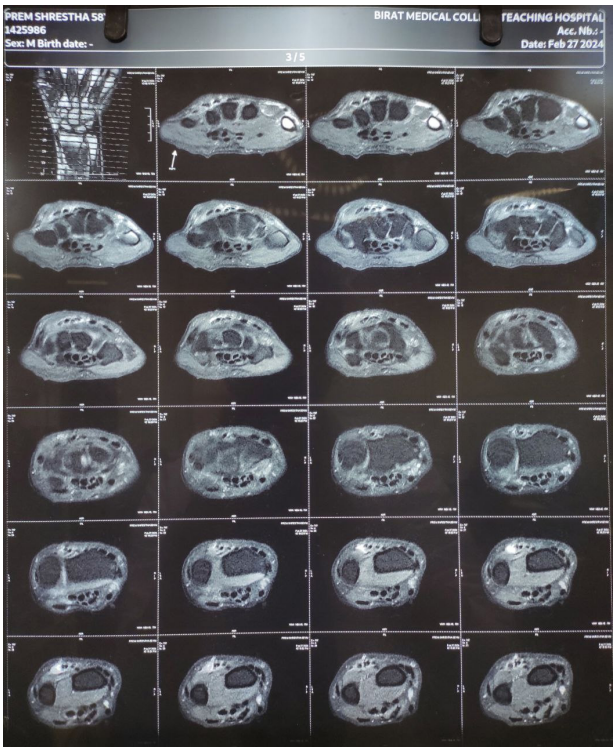


Figure 2: MRI showing residual or recurrent disease



Figure 3: Wide resection of the mass



Figure 4: Ligamentous and capsular reconstruction using TFL



Figure 5: Extensor tendon reconstruction using tendon grafts of palmaris longus and middle finger FDS.





Figure 6: Soft tissue resurfacing with reverse radial forearm flap

Discussion

This case exemplifies the deceptive nature of synovial sarcoma, especially when presenting in the wrist. The lesion mimicked a benign ganglion, leading to repeated unplanned interventions: classic examples of "whoops procedure." Such procedures often lead to local contamination, incomplete excision, and may necessitate more extensive surgery or even amputation.[4,5]

MRI is indispensable in evaluating soft tissue masses, as it delineates tumour margins, involvement of adjacent structures, and helps guide biopsy as well as final definitive surgery.[6] Biopsy, must precede any surgical excision in atypical or recurrent soft tissue masses to confirm the diagnosis.[7]

The wrist is anatomically complex, and oncologic resection here often compromises function. Hence, thoughtful planning for reconstruction is critical. Tendon grafts from FDS and palmaris longus are effective in restoring finger extension. The reverse radial forearm flap remains a reliable option for local soft tissue coverage over wrist and hand.[8,9]

Adjuvant therapy with chemotherapy and radiotherapy is recommended in high-grade synovial sarcomas for improved local control and survival.[10]

Conclusion

This case illustrates how synovial sarcoma can masquerade as a benign wrist ganglion and be subjected to multiple non-oncologic surgeries. Thorough preoperative assessment with imaging and biopsy is critical. Avoiding the "whoops" procedure can dramatically improve oncologic outcomes. Early referral to a multidisciplinary sarcoma unit ensures proper surgical planning, reconstruction, and adjuvant therapy.

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