

Pigmented Villonodular Synovitis Involving the Wrist: Case Report

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Abstract: *Pigmented villonodular synovitis (PVNS) is a benign lesion which may be located in joints, tendon sheaths or bursae. The most common sites are knee and hip joint. Other joints of the extremities have been reported but incidence 1.8 per million populations per year.¹⁻² The purpose of this report is to describe the clinical and surgical treatment of PVNS at wrist.*

CASE REPORT

A 51 years old man presented with a mass at dorsal of his left wrist for 18 months. He was able to move full range of motion of his wrist without pain or neurological deficit. He underwent local excision 6 months at another hospital prior to this presentation. Three months later, he had rapid growing mass presented at the same location. The physical examinations revealed a 3*2 cm mass at dorsal aspect of the left wrist, fixed, firm consistency and no tender on palpation. The Transillumination's test, Phalen's test and Tinel's sign were negative. He had full range of motion in passive and active motion.

The plain radiograph revealed soft tissue shadow at dorsal aspect of the left wrist without joint space narrowing or erosion of the carpal bone (Figure 1). Ultrasound demonstrated fluid accumulation in extensor tendon compartment associated with synovial proliferation and increase vascularity compatible with tenosynovitis (Figure 2). The initial diagnosis was tenosynovitis.

The patient underwent an excision of the mass. Surgery revealed a multiloculated brownish mass, measuring 4 × 3.5 cm at the level of extensor retinaculum. Extensor tendon and neurovascular were not involved. The mass originated from wrist joint and penetrating into scapholunate joint (Figure 3,4). Histological examination demonstrated abnormal cellular proliferation with some foam cells and brown pigment (Figure 5).

DISCUSSION

The most common presentation of PVNS at wrist joint is mass and wrist pain.³ Normally, the plain radiograph found erosion of the wrist joint in the nodular form and the cystic degeneration in the cancellous bone.³⁻⁴ Sometime clinical presentation

mimic rheumatoid arthritis, found mass with ulnar deviated MCP joint both hand and swan neck of ring and little finger.⁵ The magnetic resonance imaging investigation reveal bony erosion both side of the joint with low signal intensity in T2-weight and "blooming" of PVNS lesions on gradient echo sequences.^{2,6}

The common of dorsal wrist mass are ganglion cyst, giant cell tumor of tendon sheath and rheumatoid nodule. PVNS may occur but rare, with rapid enlargement, but no clinical symptom.³⁻⁵ Magnetic resonance imaging is the most common investigation to confirm the diagnosis.^{2,6} Complete resection is the goal of treatment because of low incidence of recurrence.¹⁻⁶ If the total excision can't be achieved, the radiation therapy must be considered.⁴ If the mass involve extensor tendon, reconstruction of extensor hood is choice of treatment.⁵ Even in the delay treatment case, the lesion is rarely developed to malignant PVNS.

In our case, the initial diagnosis was tenosynovitis but brown mass at dorsal wrist was found intraoperatively. Complete excision was performed the same as the literatures.¹⁻⁶ The final pathologic diagnosis described that the mass was PVNS. Patient had satisfactory results after 2 years follow up. No recurrence was identified and full range of motion of the wrist was achieved.



Figure 1. The plain radiograph revealed soft tissue mass at dorsal aspect of the left wrist with no erosion of carpal bone.

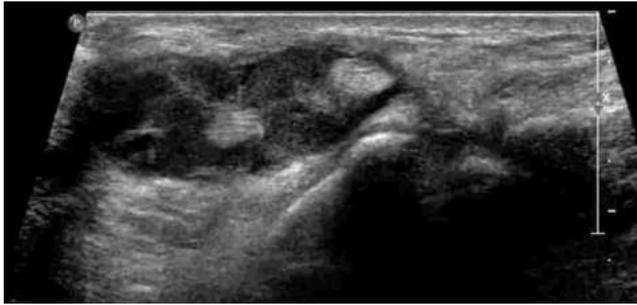


Figure 2. *Ultrasonography demonstrated synovial proliferation of dorsal left wrist.*



Figure 3. *Brown encapsulated villonodular mass size 4*3.5 cm.*

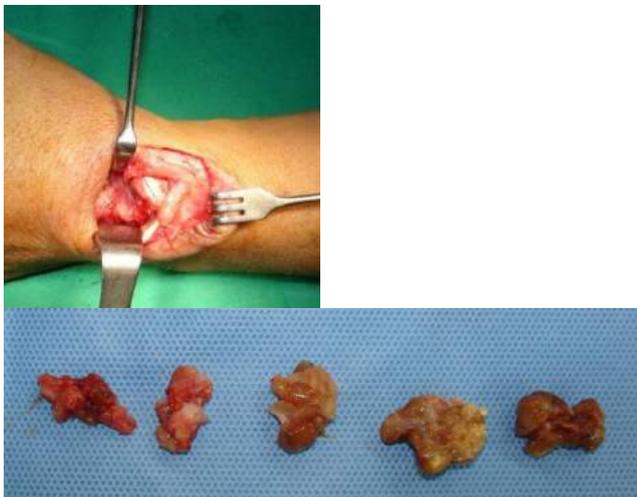


Figure 4. *Excision of the entire mass.*

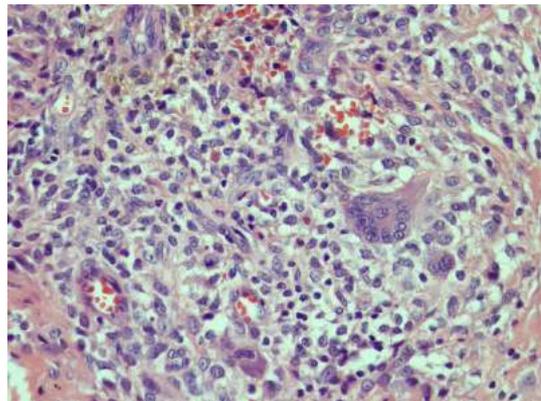
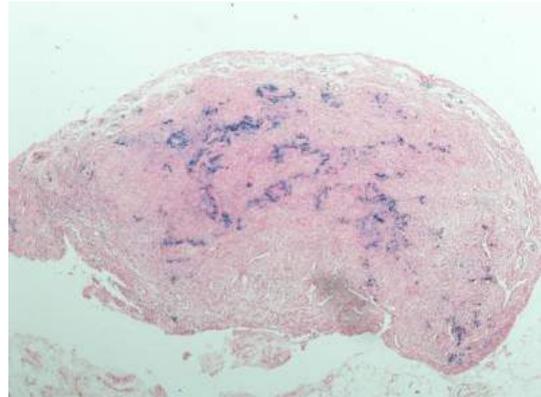


Figure 5. *Histopathological examination demonstrated foam cells and brown pigment.*

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