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Case Description

A 33-year-old veteran female with chronic left knee pain and recurrent effusions who was first diagnosed by MRI with pigmented villonodular synovitis (PVNS) during the military in 2014. Due to persistent symptoms, she underwent right knee open synovectomy with success until one year ago when her pain returned with no inciting event. New MRI showed findings of nodular density in suprapatellar space and lateral meniscus concerning of PVNS. Orthopedic surgery recommended conservative management and was referred to general rehabilitation clinic.

Upon evaluation, patient reported sporadic locking, pain on the lateral aspect of the knee, and swelling on two occasions. Symptoms do not interfere with activities of daily living for which decision was made to continue conservative management with home exercise program, knee bracing, and follow up in 6 months.

Discussion

PVNS, also known as tenosynovial giant cell tumor, is a rare benign proliferative synovial lesion that can affect tendons and bursas. Literature reports an incidence of 1.8 cases per million. It usually presents between the third and fourth decade without gender preference and involves a single large joint such as the hip or shoulder, with the knee being the most commonly affected. Etiology is unclear however, it has been found to be associated with overexpression of the CSF1 gene. Clinical presentation is usually insidious in onset with recurrent swelling and pain. Diagnosis is typically made by MRI and/or histologic analysis.

Treatment

The treatment of PVNS can include open or arthroscopic partial or total synovectomy, radiation therapy, total knee replacement, or be conservative. Nevertheless, recurrence is a common complication especially when the affected synovium is not completely resected.

Rehabilitation

There is only one study addressing post op physical therapy evaluation to improve functional limitations, including limited range of motion. There are no reports addressing specific therapy program and its benefits on pain and quality of life.

Conclusion

Clinicians should be aware of PVNS, its clinical presentation, radiological findings, and include it in their differential diagnosis especially in adults aged 30-40 with knee pain and recurrent swelling. Further studies are needed to assess preoperative rehab and/or post op rehab benefits.

References

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