



## Case Report

# Total knee replacement in patients with diffuse villonodular synovitis<sup>☆</sup>



Lucio Flávio Biondi Pinheiro Junior<sup>a,\*</sup>, Marcos Henrique Frauendorf Cenni<sup>a</sup>,  
Rafael Henriques Soares Leal<sup>b</sup>, Luiz Eduardo Moreira Teixeira<sup>c</sup>

<sup>a</sup> Rede Mater Dei de Saúde, Belo Horizonte, MG, Brazil

<sup>b</sup> Hospital da Unimed, Belo Horizonte, MG, Brazil

<sup>c</sup> Universidade Federal de Minas Gerais, Hospital das Clínicas, Belo Horizonte, MG, Brazil

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## ABSTRACT

This paper reports a case of diffuse pigmented villonodular synovitis (DPVNS), associated with advanced gonarthrosis, submitted to total knee replacement. The patient had progressive pain and swelling. She had two previous surgeries, firstly arthroscopic synovectomy and subsequently open synovectomy associated with radiotherapy, with recurrence of the disease. Magnetic resonance imaging revealed diffuse synovitis, advanced arthrosis, and bone cysts. The patient was submitted to a total knee replacement and synovectomy. There was a good postoperative clinical course, with improvement of pain, function, and joint edema on examination. The patient will be followed regarding the possibility of disease recurrence and implant survival.

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## Artroplastia total do joelho em paciente com sinovite vilonodular pigmentada forma difusa

## RESUMO

Este trabalho relata um caso de sinovite vilonodular pigmentada forma difusa (SVNPD), associada a genoartrose avançada, que foi submetida a artroplastia total do joelho. A paciente apresentava dor e edema em joelho de caráter progressivo, já submetida previamente a duas sinovectomias, uma por via artroscópica e outra por via aberta, além de radioterapia, com recidiva da doença. As radiografias demonstravam obliteração dos espaços

### Palavras-chave:

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\* Corresponding author.

E-mail: [luciobiondi@terra.com.br](mailto:luciobiondi@terra.com.br) (L.F. Pinheiro Junior).

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articulares, além de erosões e cistos intraósseos na tíbia e no fêmur. Ressonância magnética evidenciou sinovite difusa extensa, além de artrose avançada e cistos ósseos. A paciente foi submetida a artroplastia total do joelho combinada com sinovectomia ampla. Ela apresentou boa evolução clínica pós-operatória, com melhoria da dor, da função e do edema. A paciente será acompanhada quanto à possibilidade de recorrência da doença e sobrevida do implante.

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## Introduction

Pigmented villonodular synovitis is a rare, benign and proliferative disease of the synovial tissue of uncertain etiology that can determine the destruction of joint cartilage and result in osteoarthritis.<sup>1</sup> Simon described the localized type of the knee and Moser, in 1909, described the diffuse type of the disease. Jaffe et al.<sup>2</sup> proposed the term pigmented villonodular synovitis for these manifestations, but the nomenclature proposed by Granowitz defined that the term pigmented villonodular synovitis should be used for intra-articular lesions, pigmented villonodular bursitis for lesions located in the bursae and pigmented villonodular tenosynovitis for lesions originating from tendinous sheaths.

This pathology can be divided into two types: localized and diffuse. The most common type is the diffuse one. It is more frequent between 20 and 50 years of age but can reach any age, with a slight prevalence in females. The treatment aims at the resection of the lesion, both arthroscopically and/or via open surgery, with local recurrence between 10% and 56%.<sup>3</sup>

This work describes a case of diffuse villonodular pigmented synovitis affecting the right knee, that was associated with advanced gonarthrosis and underwent total replacement.

## Clinical case

A 65-year-old white female patient, who was a housewife and presented with pain, functional restriction, and right knee edema. Diagnosed with diffuse villonodular synovitis for 20 years, she had undergone arthroscopic synovectomy at the time. After a few years, she progressed with relapse of the disease, and eight years ago she underwent a new synovectomy, via open anterior incision surgery, followed by radiotherapy in the postoperative period. After a few years, there was a new relapse of the disease with pain worsening, presence of edema and functional restriction. On physical examination, she had a varus deformity of the right knee, limping gait, bulky joint effusion, diffuse pain on palpation, full extension, though flexion of this knee was restricted to



**Fig. 1 – Clinical aspect (A), magnetic resonance imaging (B) and radiographs (C), which demonstrate diffuse synovitis, arthrosis, and bone cysts.**

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