

## Synovial Chondromatosis Of The Knee Post Intra-Articular Injection

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### INTRODUCTION:

Synovial chondromatosis is a benign disease that commonly affects male more than female. Despite of unknown aetiology, we would like to present two patients who developed synovial chondromatosis post PRP + stem cells and PRP + Hyaluronic acid (HA) injection.

### CASE REPORT:

Mr A, a 63 years old retiree presented to us with worsening of left knee pain and limited ROM. He claimed the symptoms occurred after a PRP + stem cells injection was delivered in 2013.

Examination noted his left knee ROM is 0-90° both active and passive. Radiographic examination noted multiple chondromatosis.

Arthroscopic debridement was done and his ROM improved to 120° post-operatively.

Madam O, a 58 years old lady presented to us with worsening pain over her right knee. She gave a history PRP + HA injection on Sept 2017 followed by worsening of symptoms.

Examination noted her right knee ROM is 0-105° both active and passive. Radiographic examination noted multiple chondromatosis.

She is planned for arthroscopic debridement.

### DISCUSSION:

Synovial chondromatosis is a benign articular pathology that commonly affects the knee joint.<sup>1</sup> The aetiology for synovial chondromatosis was unsure however the formation of cartilaginous foci is attributed to chondritic metaplasia of the synovium. Malignant transformation is rare.<sup>1</sup>

Platelet rich plasma (PRP) is prepared by centrifugate the patient's peripheral blood to generate a concentrated sample of platelets and plasma. Degranulation of the platelets release growth factor, and the plasma is rich of thrombin, cytokines and growth factors.<sup>2</sup>

Pluripotent mesenchymal stem cells (MSC) that present in blood have the potential ability to differentiate to cells of the mesodermal lineage (adipocytes, osteoblasts, chondrocytes). Differentiation of both osteoblasts and

chondrocytes can leads to reconstitution of subchondral bone and cartilaginous repair.<sup>3</sup>

Till date, literature search on intra-articular injection has no complications of synovial chondromatosis post therapy. However, in the field of regenerative medicine, care should be always taken as this might be one of the contributing factors of over-expression.

### CONCLUSION:

As we have encounter 2 cases of synovial chondromatosis post intra-articular injection, we hope that this can create awareness among surgeons to anticipate such complications.



Fig 1: Antero-posterior and Lateral view of knee x-ray (Left: Mr A, Right: Madam O)



Fig 2: Intra-operative removal of loose bodies (Mr A)

### REFERENCES:

1. Haanraads, E. J., Taconis, W. K., Huib, J., van den Hout, W., & Feldberg, M. A. (1992). Synovial chondromatosis of the knee. *European Radiology*, 2(1), 73-75.
2. Zhu, Y., Yuan, M., Meng, H. Y., Wang, A. Y., Guo, Q. Y., Wang, Y., & Peng, J. (2013). Basic science and clinical application of platelet-rich plasma for cartilage defects and osteoarthritis: a review. *Osteoarthritis and Cartilage*, 21(11), 1627-1637.
3. Orth, P., Rey-Rico, A., Venkatesan, J. K., Madry, H., & Cucchiaroni, M. (2014). Current perspectives in stem cell research for knee cartilage repair. *Stem cells and cloning: advances and applications*, 7, 1.