

## Case Report

# Synovial sarcoma presenting as subcutaneous swelling: a rare presentation

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### ABSTRACT

Synovial sarcoma unlike its name is not originating from synovial cells. It accounts for approximately 10% of all soft tissue sarcomas with main predilection for extremities. We present here a case of synovial sarcoma of subcutaneous origin of knee joint which is rarest of presentations and early diagnosis is associated with lower risk of metastasis and hence better prognosis.

**Keywords:** Synovial sarcoma, Superficial, Monophasic and biphasic pattern

### INTRODUCTION

Synovial sarcoma is one of the rare soft tissue sarcomas of the body with most common presentation in adolescent age between 15 to 40 years of age.<sup>1,3</sup> It has got four main varieties namely monophasic epithelial, monophasic fibrous or mesenchyma, biphasic and poorly differentiated.<sup>2,3</sup> Its main predilection is towards lower extremities but it can also present at unusual places like heart, mediastinum, lungs or small intestinal mesentery. Till date there are two case reports of subcutaneous superficial synovial sarcoma is reported and this case report of ours is third one arising from superficial layer without involving knee joint.<sup>1,5</sup>

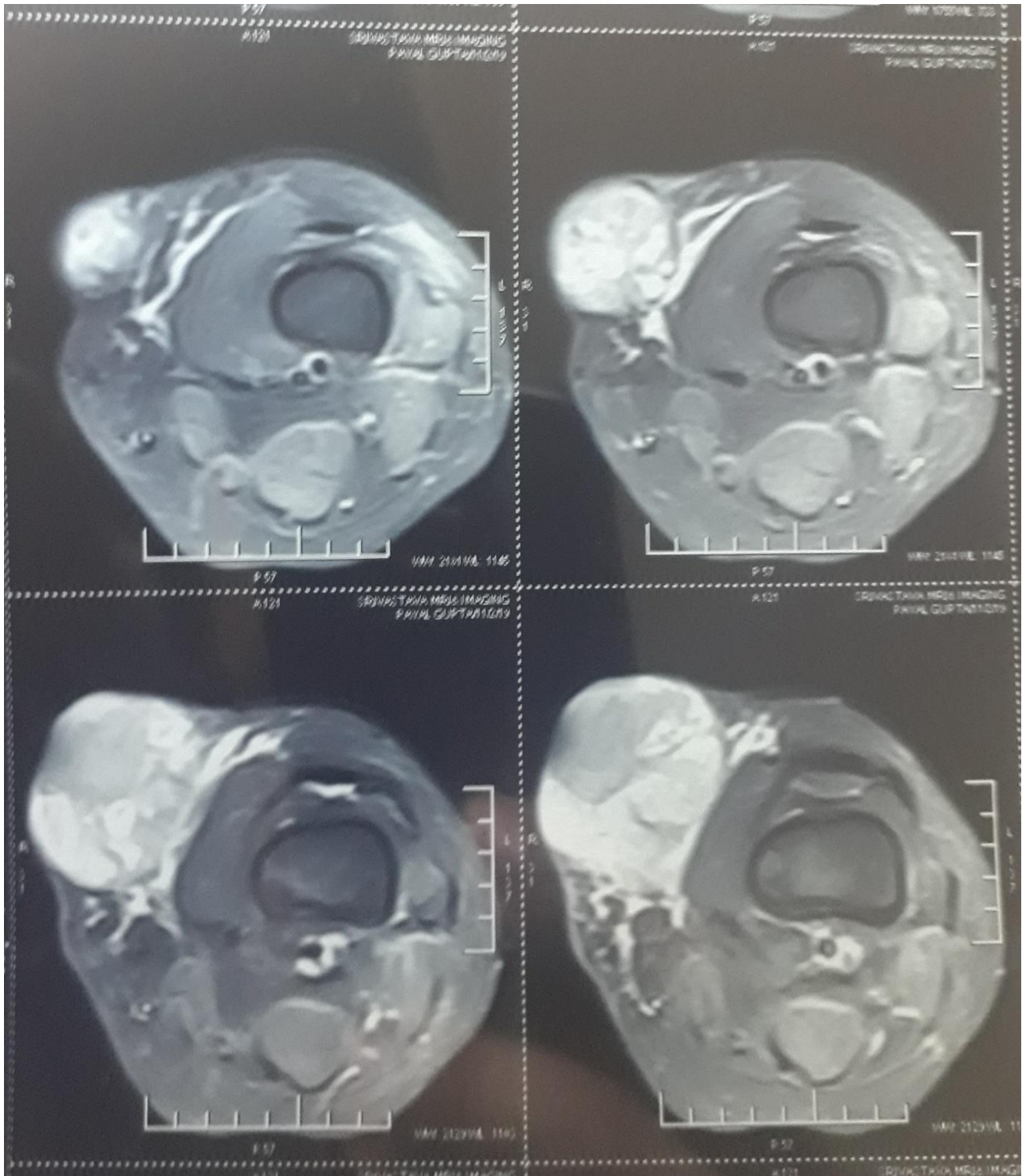
### CASE REPORT

A 29 year old female presented with a swelling of medial aspect of her left knee since last 4 months which gradually increased in size and at time of presentation was of 10×8 cms. It was irregular in surface, painless, with presence of superficial skin necrosis. The consistency was firm and there were no visible

pulsations. The swelling was freely mobile and there was no abnormality in knee joint mobility (Figure 1).



**Figure 1: Gross appearance of tumor over medial aspect of left knee.**



**Figure 2: Transverse section of left knee.**

MRI findings showed large (8.2×5.5 cms) sized lobulated soft tissue lesion in juxta articular knee joint with no osseous or intra articular involvement. The underlying muscle displayed normal signal intensity and vastus medialis compressed. (Figure 2 and 3). In view of large size and progressively increasing size of tumor, CECT of chest, abdomen and pelvis was done to rule out metastasis which showed normal study.

Wide local excision of mass was done and on table there was no bone or joint capsule or muscle involvement. In order to take margins, part of fascia of vastus medialis was taken and raw area was covered by split skin graft (Figure 4).

Histopathology report showed tumor size of 8×6×5 cm being excised along with skin with margins free of tumor.



On cut section, macroscopically tumor was grey white with necrotic area. Microscopically oval to spindle cells were seen in the form of diffuse sheets and focal follicles. These cells contained oval to spindle shaped nuclei with moderate to abundant pale eosinophilic and finely vacuolated cytoplasm. Mitotic rate was more than 10.

Immunohistochemistry showed positive for vimentin, CD99 and BCL – 2. They all were negative for Desmin, SMA, S-100 and CD34. Final report is given synovial sarcoma knee with poor differentiation. Depending upon markers it is mesenchymal type (monophasic) (Figure 5).

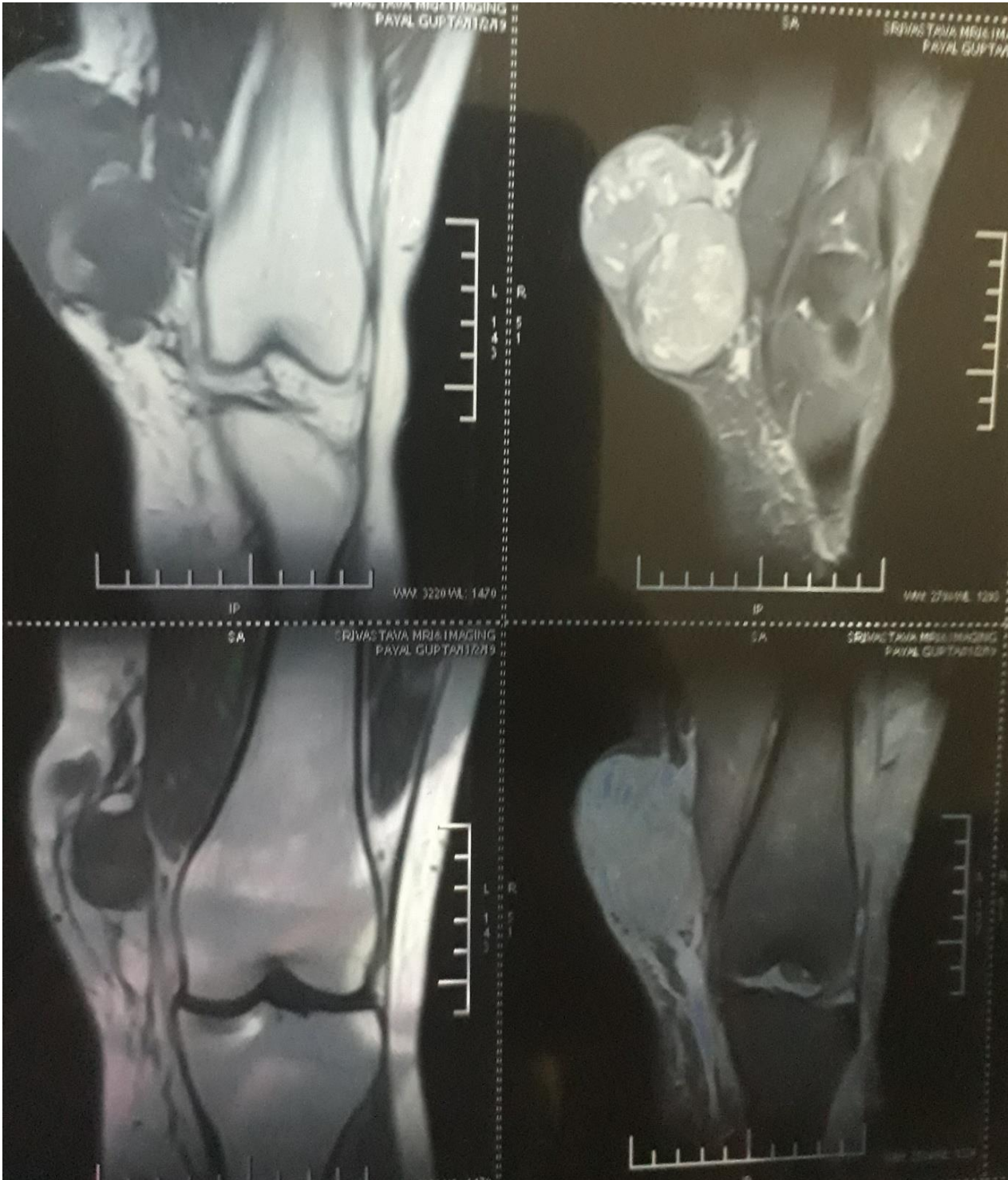
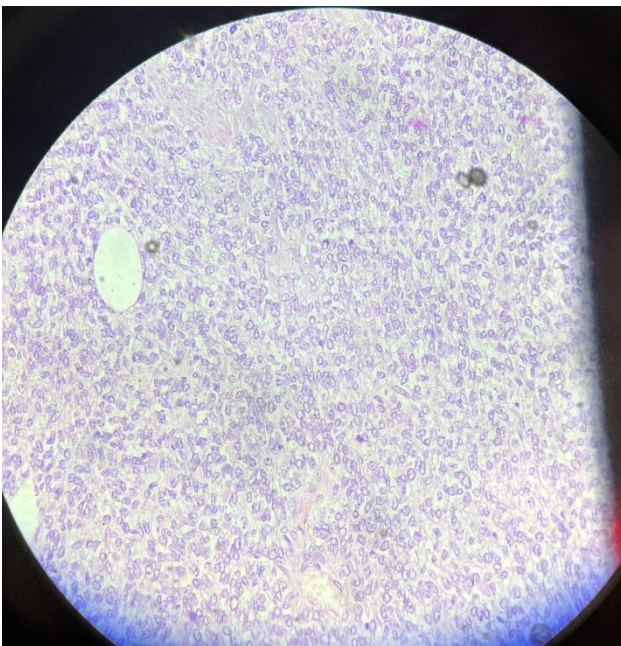


Figure 3: Coronal section MRI view.



**Figure 4: Post wide local incision of sarcoma, knee joint capsule spared but fascia removed.**



**Figure 5: Histopathological picture showing oval to spindle cell sheets.**

## DISCUSSION

Even though synovial sarcomas are not common tumors, they are very aggressive and hence have great malignant potential. Even though these tumors have predilection for articular surfaces, they can arise from any place unlikely to their name which depicts synovial joints involvement. This case of ours is the third one in the list of superficial synovial sarcoma with poor differentiation and mesenchymal type differentiation. First one was classic biphasic type and second one reported in 2016, which was a poorly differentiated type.<sup>1,5</sup>

Definitive diagnosis is on the basis of IHC studies which in our case showed positive for vimentin, CD 99 and BCL-2. The tumor is negative for desmin, SMA, S-100 and CD 34. Chromosomal study if possible is also helpful which shows translocation (18X) (p11, q11).<sup>3,4</sup> Definitive treatment is surgery with wide local excision and in case of metastasis, chemotherapy is helpful. For deeper tumors, good prognostic markers include biphasic pattern, tumor <5 cm and younger patients.<sup>4</sup>

## CONCLUSION

We report an extremely rare case of 29 year female with superficial synovial sarcoma which presented and progressed as skin lesion. To the best of our knowledge, this is third such case and hence the dermatologists should keep in mind the possibility of Synovial sarcoma as differential of skin tumors.

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