- **Answer:**
  c) Low T1 and T2 signal intensity areas represent high cellularity and low collagen content

- **Findings:**

o T1W and PD fs low signal intensity infiltrative mass with involvement of the left gluteal and the left thigh posterior and lateral compartments muscles is depicted , in favor of muscular fibromatosis.

- **Discussion:**
  - The musculoskeletal fibromatoses comprise a wide range of lesions with a common histopathologic appearance. They can be divided into two major groups: superficial and deep.
  - The deep fibromatoses are commonly large, may grow rapidly, and are more aggressive. They include infantile myofibromatosis, fibromatosis colli, extra abdominal desmoid tumor, and aggressive infantile fibromatosis.
  - Involvement of adjacent structures is common, reflecting the infiltrative growth pattern often seen in these lesions.
  - Radiographs may be normal or may show a nonspecific soft-tissue mass. Calcification is uncommon. Underlying bone involvement is seen in 6%–37% of patients, typically with pressure erosion and cortical scalloping but without invasion of the medullary canal.
  - MR imaging should be used for preoperative staging, particularly to evaluate for neurovascular and bone involvement. In extremity lesions, the entire limb should be imaged to rule out multi centric disease.
  - Common characteristics of the fibromatoses include infiltrative margins, low or intermediate signal intensity with all pulse sequences, and bands of low signal intensity representing highly collagenized tissue. However, in
  - lesions with a higher degree of cellularity and less collagen, high signal intensity may be apparent at MRI.
  - It is important for radiologists to recognize these characteristics and imaging spectrum to help guide the often difficult and protracted therapy and management of these lesions.
  - In patients who undergo radiation therapy or chemotherapy alone without surgery, MR imaging is useful in evaluating the effectiveness of therapy. Effective therapy (good lesion response) is indicated by a reduction in size and an increasing degree of low signal intensity on T2-weighted images, which reflects increased collagenization in response to therapy.

- **Reference:**

- Mark R et al. Imaging of Musculoskeletal Fibromatosis. RadioGraphics 2001;21:585-600.

Case courtesy of Mersad Mehrnahad , MD, Assistant professor of Radiology, Qom University of Medical Sciences