Hibernoma mimicking liposarcoma

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A 26-year-old man was referred to the ophthalmology department with a 1-week history of blurred vision of the left eye; there was no pain or redness. Ophthalmological examination found unilateral choriocapillaropathy with optic nerve oedema. He was in a stable relationship and had not travelled abroad recently, nor had he been in contact with any animals or pets. He had a history of ulcerative colitis diagnosed 2 years earlier for which he was treated for 1 year with azathioprine and oral corticosteroids. Since then he had been totally asymptomatic.

Physical examination found no abnormalities. Blood analysis, including blood count, serum C-reactive protein, electrolytes, creatinine, liver enzymes, and protein electrophoresis, was normal. Serologic tests for Lyme borreliosis, *Bartonella* organisms, syphilis, and HIV were also negative. Serum angiotensin-converting-enzyme level was within the normal range but lysozyme was slightly increased at 21 mg/L (normal range <17 mg/L). Because sarcoidosis associated posterior uveitis was the suspected diagnosis an ^{18}fluorodeoxyglucose PET/CT scan was done. This showed a hypermetabolic (standardised uptake value maximum [SUV_{max}], 3·3) lipomatous abdominal tumour measuring 12 cm×5·6 cm×22·3 cm with an extension into the crural hole, highly suggestive of a liposarcoma. The tumour was surgically resected, which required a mono-bloc resection with careful dissection of the femoral nerve. Surprisingly, pathological examination of the mass showed multivacuolated immature adipocytes—consistent with a diagnosis of an hibernoma. The ophthalmological pathology he presented with improved spontaneously within 1 month leading to a presumed diagnosis of isolated sarcoidosis posterior uveitis.

Hibernomas are rare, benign, soft tissue tumours of young adults, mostly found in the thigh, shoulder, back, neck, and chest—although they can arise in retroperitoneum. They are slow growing, non-infiltrative, often asymptomatic tumours composed of mitochondria-rich brown adipose tissue normally found in large amounts in hibernating animals and newborn babies. The elevated SUV_{max}, caused by the high mitochondrial content and increased metabolic activity, is a pitfall in the differential diagnosis of soft tissue neoplasms. Interestingly in this case, the SUV_{max} was lower than most reported cases but closer to SUV_{max} rates usually attributed to well differentiated liposarcomas. Retroperitoneal liposarcomas usually occur in middle-aged or older adults and are invasive in nature; liposarcomas observed in our patient's age group are usually myxoid liposarcomas and these are rarely found retroperitoneally.

Contributors
LP, PD'A, AK, AM and LC treated the patient, PD'A created the figure. LP wrote the report. Written consent from the patient for publication was obtained.

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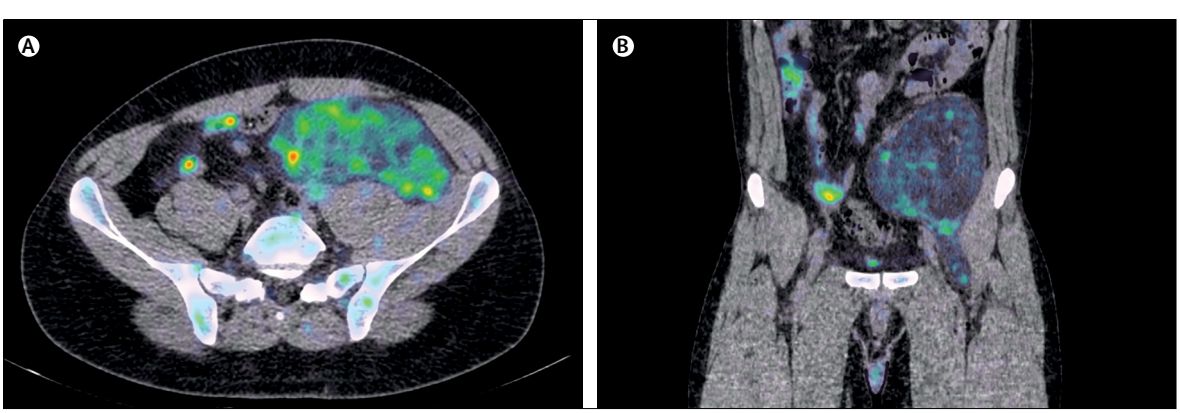

Figure: **Hibernoma mimicking liposarcoma**
^{18}fluorodeoxyglucose PET/CT abdominal axial (A) and coronal (B) scans showing hibernoma mass.