

# Giant buttock lipoma with an atypical presentation as a sciatic hernia – case report

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## INTRODUCTION

Lipomas are soft-tissue tumours deriving from the proliferation of mature adipocytes. They have benign characteristics and a mesenchymal origin, representing the most common soft-tissue tumours of adulthood<sup>1</sup>. They can reach considerable size prior to diagnosis till they become symptomatic. The authors report a case of a patient in whom a giant buttock lipoma presents itself as a sciatic hernia. Magnetic resonance imaging revealed a large intra- and extra-pelvic fat mass throughout the sciatic notch. The tumour was surgically removed through an Kocher-Langenbeck approach. Successful and safe removal of this large benign pelvic tumour was achieved, although the patient still reveals neurological sequelae up to this day.

## CASE STUDY

A 55-year-old woman with left low back pain, paresthesia and hypoesthesia in the territory of L5 and S1 roots, with decreased muscle strength (3 / 5), with about one year of evolution. The patient referred polakiuria without abdominal or pelvic discomfort. No pelvic or spine surgery was reported, and she was not medicated in any way. In addition, the patient had no relevant medical or family history except for diabetes mellitus. No lump was detected and the laboratory test results were normal.

An electromyography (EMG) of lower limbs and magnetic resonance imaging (MRI) of the lumbar spine was performed, and showed axonal injury of the left L5 root on EMG, without root or spinal cord compression, visible on MRI, to justify the low back pain and the axonal lesion on the EMG. A pelvic MRI was per-

formed on the patient, showing a well defined large mass, in the left gluteal region between the gluteus maximum and minimum, with similarities to fat tissue, measuring 12x13x10 cm (longitudinal diameter, transverse and anteroposterior), occupying the posterior side of the left hip joint, extending to the obturator foramen, causing deviation of the pelvic structures (Figure 1). An arteriography was carry out and was not observed any tumour blush or invasion of the gluteal vessels, obturator vessels or others. The tumour was homogeneously iso-intense with fat. Appart from its size and deep position, there were no other signs for alarm, although an atypical lipoma or well differentiated liposarcoma could not be excluded.

Despite the benign features of the lesion, consistent with giant lipoma, the patient underwent surgery to perform a total excision of the tumour mass, due to the compression of adjacent structures, including the bladder (which was displaced anteriorly) and sciatic nerve. A Kocher-Langenbeck approach was performed and the superficial part of the tumour was resected (Figure 2). The sciatic nerve was identified and isolated deeply to the sciatic notch, with progressive blunt dissection of the tumour. A partial section of the hip rotators was performed allowing the detachment of the deeper part of the tumour adjacent to the obturator foramen. The tumour was removed, with a total weight of 548 grams. Its histopathological examination had no signs of malignancy, without lobulated fatty tissue, macroscopic or histological evidence of haemorrhage, necrosis, lipoblasts or malignant cells. This confirmed the diagnosis of a giant lipoma.

## RESULTS

After 4 days of uneventful hospitalisation the patient went home, with permission to partial weight bear and walk with crutches for 2 weeks, till the pain dissapears.

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**FIGURE 1.** MRI (coronal section), showing the large tumour invading the pelvis

No adjuvant treatment was given.

Postoperatively the patient maintained complaints of hypoaesthesia, paraesthesia and decreased muscle strength (3 / 5). She was followed in outpatient clinic, having performed approximately 4 months of physical therapy, with progressive clinical improvement. Two years after surgery, the patient has no pain and no bladder complaints. However, she maintains a slight deficit in muscle strength (4/5) with hypoaesthesia and paresthesias on the left foot. A two month post-surgery MRI revealed a small remnant of the lipoma tissue of about 15x25 mm. The EMG carried out six months following the surgery was consistent with sequelae of severe axonal injury of the left common sciatic nerve. No evidence of tumour recurrence was reported at 2 years of follow-up.

## DISCUSSION

Superficial lipomas are very commonly benign adipose tissue tumours. In contrast, deep seated lipomas are extremely rare and must be carefully distinguished from well differentiated liposarcomas for appropriate treatment and follow-up<sup>2</sup>. Lipomas grow slowly and surround the structures next to it, and when in the pelvic region, displacement of organs, such as bowel, can occur<sup>3</sup>.

There are few reported cases of such big lipomas in pelvic cavity. In our case the mass occupied both the inside and outside of the pelvic cavity. As described in other articles we could not clarify whether its primary site was the pelvic cavity or the left buttock. Considering the reported cases, we thought that the mass extended from the buttock to the pelvic cavity through



**FIGURE 2.** Macroscopic view of the lipoma

the sciatic foramen<sup>4</sup>.

When a patient complains with sciatic pain, the physician has to be able to exclude disc herniation with radicular compression, hip pathology, muscular pain and other compressive causes in the lumbar column and the pelvis region. Sometimes tumours are detected in regular health screening examinations. If a big mass as a lipoma is located in the retroperitoneal space, it becomes difficult to detect once the symptoms are late and nonspecific, so they can grow slowly, reaching a considerable size before being diagnosed. There are usually no laboratory abnormalities and the MRI enables the differentiation between benign and malignant tumours, so its characteristic imaging findings are crucial to distinguish fatty tumors such as lipomas or liposarcomas, once they are differential diagnosis. Histopathologic examination, however, is necessary to exclude liposarcoma. Ultrasound-guided fine needle biopsy can be performed to exclude malignancy, revealing benign tumour tissue<sup>2</sup>.

The treatment of these big lipomas is the total resection of the tumour mainly because its compressive symptoms. Osteotomies of the pelvis<sup>5</sup> or combined one-stage transabdominal and posterior transgluteal are described to be necessary to achieve total resection of the tumour in some cases<sup>6</sup>. High-resolution MRI is a useful tool in the management of these tumours because it allows the surgeon to visualize the anatomical relationships of the tumour to the sciatic nerve. These imaging technology advances, will provide surgeons a method to predict definitively which sciatic notch tumours displace rather than directly involve the sciatic nerve, and therefore indicate which tumours can be resected safely and completely<sup>6</sup>. The operative mana-

gement of combined intrapelvic and extrapelvic sciatic notch dumbbell-shaped tumours is challenging. The rare occurrence of these tumours and the varied extent of diseases have made it difficult for surgeons to establish definitive surgical indications or predict favourable neurological outcomes based on preoperative imaging data<sup>5</sup>.

Reports of extrinsic obstruction of a major vessel in the lower limb caused by compression from mass lesions are uncommon, and some of them cause deep vein thrombosis<sup>7-9</sup>. In our case both legs were not swollen and the patient had no oedema, which indicated no major venous compression. She had bladder and ureter compression, which could lead to urine stasis and infection. However the patient referred only pollakiuria, back and sciatic pain. The compressive symptoms and the neurological sequelae may not recede completely, as shown in our case, and the recovery depends mainly on the chronicity of the compression.

Decreasing the risk of recurrence requires a total excision, including as much surrounding tissue as possible to prevent remnant tumour tissue. These patients require regular clinical and radiological follow-up, however local recurrence is rare. Additional growth or recurrence of diffuse infiltrating lipomatosis can be detected by follow-up MRI examinations<sup>2</sup>.

## CONCLUSION

Deep lipomas are rare tumours. Due to its slowly growth, these tumours can result in compressive effects to the structures around such as nerves or vessels. When a patient refers sciatic pain, differential diagnosis such as disc herniation with radicular compression or hip pathology should be discarded. Also compressive tumours such as lipomas or liposarcomas must be excluded. In these cases, surgical treatment guarantees

complete resolution of the symptoms. Because surgical extraction of a massive lipoma from the pelvic region is a difficult task, it should be performed by experienced surgeons to achieve the goal with minimal morbidity and complete local control.

We report a rare and uncommon case of a giant buttock lipoma with an atypical presentation as a sciatic hernia. Physicians should be aware of this rare clinical entity, its different presentations and different treatments, although the prognosis is good.

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