Bilateral post-injection fibrosis of the gluteal region mimicking lumbar disc herniation: a case report

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Abstract

Tissue fibrosis is a known complication of intramuscular injections, which is especially seen in children due to vaccinations and injections. Herein we report a case of post injection gluteal fibrosis that had undergone two unsuccessful lumbar discectomies to treat the symptoms of this disease.

A 45 years old male patient was consulted to our clinic from the department of neurochirurgry with complaints of bilateral hip pain. The patient was operated on for lumbar disc herniation in L4-5 level twice but his complaints had not resolved. A third operation including L4-5 instrumentation and fusion was planned. The patient stated that he had bilateral hip pain for 6 months. The pain started as a dull aching discomfort but increased in intensity after the first month and got to a degree where it was impossible for him to sit on his buttocks on a hard surface. This pain was seldomly reflected to lateral thigh regions. His family doctor referred him to a neurosurgeon and a lumbar magnetic resonance imaging (MRI) was obtained. His MRI revealed a lumbar disc protrusion in L4-5 disc level and then he underwent a partial laminectomy and L4-5 discectomy. His complaints did not resolve after the first operation and after obtaining a second MRI at post-operative 1.5 months, he was told to have disc remnants at the operated level and underwent a second discectomy procedure at the same level (Figure 1). Again there were no improvements in his symptoms and his complaints even got worse after gluteal injections used for postoperative pain management. He also stated that the number of buttock nodules increased after the injections.

His examination revealed a postoperative scar at midlumbar region with a completely normal neurological examination. There were painful nodules in both gluteal regions at the posterosuperior regions of both trochanter majors and they were quite tender upon palpation. Post-injection fibrositis (granuloma), was suspected but to rule out an infection, his blood tests were ordered. His complete blood count, sedimentation, C reactive protein levels, brucella antibody levels, tuberculosis skin tests were all normal. The palpable nodules were marked with a skin marker and to distinguish an inflammatory process, a mixture of 1 cc 2% prilocaine and 1 cc (6 mg) beta-methasone was injected to his right hip around the nodules to distinguish the response to this local treatment. At 1 week follow-up he reported a marked relief in his right hip. During the second week, his right hip pain started to increase and reached the preinjection level after the 3rd week.

As the localization of the pain was found, an MRI of both hips was obtained and it failed to show any subcutaneous or intrafascial nodules. Then the patient was sent to physical therapy department and got 20 sessions of physical therapy but there was no change in his complaints. Unresponsiveness to conservative measures led us to a surgical decision and excision of the palpated nodules was planned.

He was operated on the right side first. Under spinal anesthesia he was turned prone and with the help of the patient, the palpable tender nodules were marked with a skin marker. An oblique incision perpendicular to the reflection of the gluteal muscles was made over the nodules (Figure 2). The subcutaneous tissue was palpated deeply but no nodules were palpated. Throughout the procedure we talked to the patient and at last, deepening to the fascial layer, we reached the nodules. The part of the gluteal fascia containing the nodules was excised totally. Four big (10×10 mm) and one small (3×3 mm) nodules were found (Figure 3). A vacuum drain was placed over the gluteal muscle and layers were closed. Twenty-four...
hours later the drain was removed as there was no discharge from the wound site and the patient was discarded as well. The pathological examination of the fascia with nodules revealed a chronic inflammatory reaction with granulation tissue (Figure 4).

When the patient showed up at the end of postoperative first week, his pain in his right hip had markedly diminished. There was slight tenderness at the wound site. At the end of 3 weeks he was completely pain free in his right hip. Seeing this result, we operated him on the left side 4 weeks after the first operation again under spinal anesthesia and with the patient’s guidance. This time we used a different incision starting from the tip of the greater trochanter towards the spina iliaca posterior superior. Gluteal fascia was excised again with some subcutaneous tissue. There were 3 big and one small nodules in his left hip. The pathological examination of the removed tissue was again consistent with a chronic inflammatory reaction with granulation tissue. The patient was pain free in both hips 2 weeks after the second operation.

Intramuscular injections were prevented after both operations and during the 6 months follow-up, the patient did not have any flare-up of his old complaints. There were incision site tendernesses during the first two months but they disappeared completely by the end of 4 months.

Discussion

Edema resulting from injection together with any toxic effect of the injection may cause muscle infarction, necrosis and fibrosis resulting in a contracture.1 Abnormal control of collagen formation could be another important pathogenic factor in the development of fibrosis.2 Even the slight trauma of an injection causes some disruption of muscle fibers and local necrosis and this has been called “needle myopathy”.2

Injection fibrosis is generally seen in children due to vaccinations.1,3,4 The quadriceps and deltoid muscles are the most frequent sites of involvement.5 Fibrosis in the gluteal region is much rare. Numerous methods of treatments including conservative and operative methods were described in the literature.1,5,6

The clinical diagnosis of post-injection fibrosis is problematic, due to the difficulty of determining the etiology. In many patients the diagnosis comes from a history of injection. Pain in the gluteal region is not a frequently described clinical feature of this condition. Many reports in the literature emphasize a contracture rather than pain.1,5,6 Our patient is unique as he had excruciating pain but no signs of muscle contracture.

Another peculiarity of our patient is the radiation of pain from the hips to the sides of the thighs. Hip and thigh pain are among the symptoms of radicular compression of the lumbar nerve roots. Although seen most frequently in nerve root compression syndromes, these pain patterns can be seen in some other clinical problems, which may mimic radicular compression.2,5,7,8,9 In our case the pain pattern was suggestive of radicular compression and the MRI images were also consistent with lumbar disc herniation. When the symptoms were evaluated together with MRI findings, they led to a wrong operation that did not help solving the patient’s problems. When the symptoms did not improve after the first operation, the lack of attention to the localization of the complaints led to a second unsuccessful operation.

In conclusion, post-injection fibrosis in the gluteal region may mimic lumbar disc herniation and a detailed physical examination is the key for correct differential diagnosis. In refractory cases not responding to conservative treatment, surgical excision of the nodules may lead to a complete clinical recovery of the patient. Abandoning intramuscular injections at the symptomatic site seems sufficient to prevent flare-up of this disease.

References

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