



## LETTER TO THE EDITOR

## Thinking beyond the site of surgery in failed back surgery syndrome: Two cases with parathyroid adenoma and meningioma

*Başarısız bel cerrahisi sendromunda cerrahi alanın ötesini düşünmek: Paratiroid adenom ve meningiomalı iki olgu*

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To the Editor,

Failed back surgery syndrome (FBSS) is defined as persistent and/or increased back and/or leg pain that restricts the activities of daily living after one or more surgeries.<sup>[1]</sup> It represents a wide range of patients and its incidence is increasing daily in parallel with the increase in low back surgery in the world.<sup>[2]</sup> It has been reported that FBSS develops in 5–36% of patients 2 years after lumbar discectomy.<sup>[3]</sup> Causes include insufficient diagnosis, incorrect indication, inadequate surgical intervention, hernia recurrence, disc inflammation, scar tissue, and psychosocial causes.<sup>[4]</sup> Here, we present two cases demonstrating the importance of careful consideration of potential etiologies of persistent post-operative pain in the first case and proper patient selection in the second case before accepting the diagnosis of FBSS.

**Case 1** – A 41-year-old female underwent laminectomy 10 years ago. Her lower back and leg pain decreased after the surgery, but she reapplied 4 years later with increasing back, hip, and leg pain. Two surgeries were performed for recurrent disc herniation. While her pain decreased in the 1st year after her last back surgery, she could not walk without support for the last few years due to widespread pain in her lower back, legs, hips, chest, and knees. Post-operative bone defects, fibrotic tissue, calcification in the paravertebral muscle, and osteopenia in the pelvis were detected on lumbar computed tomography

imaging. In recent years, her pain was mostly in the lower back and legs, but due to the additional pain in other body parts, we conducted investigations on bone metabolism disorders in the blood. Parathyroid hormone (PTH) level in the blood was 785 pg/dL (10–50), and calcium (Ca) level in 24-h urine was 16.3 mg/dL (100–250) detected. Hence, we suspected parathyroid lesion. 09×10×15 mm echogenic lesion at the lower right parathyroid gland was found on ultrasonography and was consistent with adenoma. After post-operative treatment with calcitriol 0.5 mcg/day and calcium 1200 mg/day, the PTH level decreased to 256 pg/dL. The patient's pain reduced by 50%, and she started walking without support.

**Case 2** – A 50-year-old female was admitted with right leg pain 2 years prior to presentation. L4-5 central disc protrusion was detected on magnetic resonance imaging (MRI), and laminectomy-discectomy was performed. However, the right leg pain did not decrease after surgery, and the patient had a progressive loss of strength in the right leg. Sensory testing revealed hyperesthetics below the T5 dermatomal level. The right patella and Achilles reflexes were increased, and clonus and Babinski reflexes were present. Thoracic MRI revealed an intradural extramedullary hypointense enhancing mass was observed at the level of the fourth thoracic vertebra (Fig. 1). The mass was removed and found to be a meningioma. The loss of strength and pain of the patient completely resolved after 1 month.

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**Figure 1.** An intradural extramedullary hypointense mass in T1 and T2 sequences on Thoracic magnetic resonance imaging.

It is possible that this patient did not have a sufficient neurological examination before the laminectomy-discectomy therefore the surgery was performed without recognizing signs of thoracic spinal cord involvement.

A comprehensive history and physical examination should be performed while evaluating patients diagnosed with FBSS. The temporal relationship between pain and surgery needs to be examined. Then, the present pain should then be compared with the patient's preoperative pain.<sup>[5]</sup> Preoperative pain that persists in the immediate post-operative period may indicate an incorrect location or incomplete surgery, while radicular pain with new onset after surgery may result from a misplaced screw, hematoma, or abscess. Pain that occurs a certain period after the operation may be caused by a recurrent hernia, discogenic pain, epidural fibrosis, facet arthropathy, sacroiliac joint dysfunction and myofascial pain.<sup>[6]</sup> Complete blood count, including white blood cell count, erythrocyte sedimentation rate, and C-reactive protein level, should be performed to rule out postoperative infection.

As observed in our cases, pain in other body parts and additional neurological symptoms require further investigation for the diagnosis of FBSS. Physicians should consider causes from other areas or systems than those targeted by spina surgery. Physical examination, including comprehensive neurological examination, metabolic and radiological evaluation, should be performed. The patients were asked whether they had any symptoms other than low back pain. As seen in our first patient, an additional review should be requested in terms of bone metabolism disorders in patients with diffuse body pain. As observed in our second case inappropriate patient selection should be considered when complaints do not decrease after surgery.

Therefore FBSS is a complex and difficult treatment condition. Before deciding on advanced treatments such as spinal cord stimulation or surgery, the patient should be evaluated carefully with a multidisciplinary approach.

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