The Failed Back Surgery Syndrome

Pitfalls Surrounding Evaluation and Treatment

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KEYWORDS

• Failed back surgery syndrome • Myofascial pain • Chronic neuropathic pain
• Interventional pain management techniques • Interdisciplinary pain management

KEY POINTS

- Failed back surgery syndrome (FBSS) is a multidimensional chronic pain syndrome that has significant myofascial and psychosocial components that are directly related to the high incidence of lumbar surgeries in the United States.
- The development of more sophisticated surgeries and interventional treatments has not made a measurable impact on outcomes relative to return to work or medication use.
- Physical examination and radiologic evaluation have to correlate and take into account the clinical overlap of various types of pain, including radicular pain, referred (myofascial) pain, and chronic neurogenic pain, when reviewing findings.
- Prevention is the most effective treatment and postoperative treatment requires realistic goals focusing on functional accomplishments, not complete pain relief.

INTRODUCTION

FBSS is persistent or recurring low back pain with or without lumbosacral radiculopathy after 1 or more spine surgeries.[1] The incidence of FBSS is reported as between 10% and 40% but ranges between 5% and 50% have been quoted for microlaminectomy alone.[1–4] The incidence is known to increase with more complex surgeries and has not improved with the development of less-invasive advanced surgical techniques.[1,5–7] The failure rate for lumbar fusion is reported between 30% and 46% based on previous reviews[1] whereas the failure rate for microdiskectomy is thought to range between 19% and 25%.[1] The financial costs are considerable.

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RISK FACTORS FOR FAILED BACK SURGERY SYNDROME

Chan and Peng[1] provide an excellent review of the risk factors for the development of FBSS. Specific psychosocial risk factors that have been found to result in poor outcome for spinal surgery are significant levels of depression, anxiety, poor coping, somatization, and hypochondriasis.[1,8] The presence of a worker's compensation claim is consistently cited in the literature as a risk factor associated with poor surgical outcomes and is often dismissed as due to secondary gain.[1] It is important to differentiate true secondary gain from symptom magnification imposed by inability to obtain timely diagnosis and treatment. In addition, FBSS patients often pursue disability claims after job loss to retain insurance coverage for ongoing treatment. FBSS is, therefore, a biopsychosocial problem where indirect and intangible costs play a significant role in defining morbidity.[4]

A major difficulty in preventing FBSS is that the ideal time to operate is not well defined in the literature.[1,3] Surgical decision making is clear when there is progressive motor loss or cauda equina syndrome. But the timing and indications for surgery when pain is the primary complaint are not well defined. A general dictum is that 6 to 12 weeks of conservative care is reasonable prior to surgery.

It has been stated that the 2-year outcome for patients treated with either laminectomy or microlaminectomy is the same as for those treated with conservative care.[1,9–11] The time to pain improvement is faster, however, with the surgical groups. If considerations for lost productivity and lifestyle compromise are openly discussed, surgery may be a reasonable option for refractory pain as an earlier option.

Earlier surgical intervention for low back pain may make sense in selected cases on a physiologic basis. Since the 1970's it has been accepted that untreated pain promotes persistent pain patterns in the central nervous system in as little as 3 months. This is often attributed to "wind-up phenomena" or central sensitization at the levels of the spinal cord and central nervous system. Once chronic pain patterns develop treatment because more complicated and the likelihood of a successful outcome diminishes.

Deciding on the ideal time to operate is further complicated by disuse atrophy and chronic inflammation promoting physical deconditioning,[3] making restoration of function and pain control more difficult after surgery. Prolonged pain and distress also may exacerbate preexisting psychosocial stressors, which is especially problematic with hypervigilant patients who have poor pain tolerance because they may simply refuse to normalize their activities, thereby creating a vicious cycle of pain and deconditioning. Thus, although an ounce of prevention may be worth a ton of cure, nihilism with respect to surgical decision making is not reasonable.

PREOPERATIVE RISKS

- Prior surgery
  - Spinal instability has been noted to occur in 12% of cases after a first surgery and increases to greater than 50% after 4 or more revisions.[12]
- Surgery based on imagining abnormalities without good clinical correlation[1]
- Nonsurgical causes of radiculopathy and neuropathy, including toxic-metabolic neuropathies (eg, diabetes), viral and inflammatory radiculitis, vascular disease, and plexopathies due to a pelvic mass or trauma

INTRAOPERATIVE RISKS

- Difficult radiographic localization intraoperatively during microsurgical cases or when there are segmentation defects[3] causing operation at the wrong level, thus leaving the true pain generator without intervention[1,3]