FAIL BACK SURGERY SYNDROME (FBSS)

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Given the proper indications, surgical treatment of disc disease can be expected to yield good or excellent results in a high percentage of cases. Inproper selection of surgical patients can produce a back criple, one of the most difficult and frustrating medical problems that can be encountered. In general there are 2 conditions requiredsurgical treatment:-

1. **Nerve root compression**

The most common causes are HNP, spinal stenosis.

2. **Spinal instability**

Whether caused by degenerated disc or spondylolisthesis.

Statistics are not available for determine how many people are disable because of unsuccessful lumbar spine surgery in Thailand, but I estimate that a failure rate is probably more than 30% of surgical cases.

The potential causes for failure, which I have collected at the best of my knowledge are as following:-

1. **Re-current or residual disc protrusion**

This is due to incomplete removal of the degenerated disc material.

In doing discectomy, all of the degenerated disc should be taken out, otherwise it will come out later on. This occurs commonly when surgeon try to make a small opening of lamina just to remove the herniated portion of disc.

This generally occurs in 30% of surgical cases.

2. **Lateral recess stenosis is unrecognized**

Lateral recess is the portion of spinal canal located

undermath the superior articular process. When the disc is degenerated, resulted in narrowing of disc space with osteophytic formation, hypertrophy and osteophytic formation of the facet joints. The superior articular facet of the inferior vertebra moves up and produce anterior narrowing intervertebral foramen →compressing the nerve root.

A recent interstitutional study suggests that in about 57% of cases, the primary lesion of FBSS was the precence of lateral spinal stenosis. This condition should be recognized and accurately indentified before surgery, and always inspect intra-operatively, When this condition presents, sufficient bone from medial aspect of superior articular facet of the inferior vertebra has to be removed for adequate root decompressing.

3. **Lateral, extraforaminal disc herniation**

Lateral extraforaminal herniation can occur just outside the foramen and further antero-laterally.

In reported series of disc herniation, this condition occurred in 1-11.7% of cases.

Most commonly reported level was L4-5, the average age group was slightly older population → ranging 44 to 57 years.

The diagnosis can be made only by CT or MRI. The symptom is similar to case of sequestrated disc.

4. **Post-operative spinal instability**

The presence of segmental instability at a disc space is manifested radiographically by traction spurs, facet and vertebral body subluxation.

In definite case of instability, we can see facet subluxation → leading to vertebral body displacement

We do not have a good method of determining which laminectomy patients are going to suffer post-operative instability. But the tendency of developing instability is commonly occurred in case of having wide decompressive laminectomy, especially taking out the facet joints, or patients already has sings of instability pre-operatively.

5. **Post-operative degenerative change and spinal stenosis**

This occurs approximately 30% of laminectomy cases, and commonly in active life, heavy work. We have to realize that → in doing discectomy in case of herniated disc, the portion of degenerated disc is removed, but we cannot stop the degenerative process of the remaining disc. The patient has to follow post-operative regimen strictly, otherwise the degenerative change will continue quickly →leading to spinal stenosis.

6. **Next level above a fusion becomes painful**

The motion of the adjacent fusion level is increased to compensate the fusing segment, especially in case the degenerative change has already presented pre-operatively. Post-operative care is essential in preventing this condition.

7. **Wrong diagnosis**

This occurs ocassionally if we do not carefully evaluate the patient pre- operatively. There are several conditions that have symptome similar to herniated disc such as:-

-Hip diseases	-	AVN, OA
-Occult neoplasm	-	Meta CA
	-	Multiple myeloma
	-	Leukemia
	-	Lymphosarcoma
-Cord tumor		
-AS		
-Referred pain from CA liver, Aotic aneuryms		

Degenerative disc or bulging disc are commonly presented in aging patients on MRI or myelographic picture, even in case of no symptoms. When those diseases or conditions are co-insided, the wrong diagnosis can be made easily leading to unnecessary laminectomy.

8. **Latrogenic spinal stenosis**

This commonly occur in case of doing the old fashion spinal fusion posterior spinal fusion →placing bone graft on laminac and facet joints, especially in a young and active patients with good quality of bone. The over growth of bone graft created laminar thickening → leading to spinal stenosis.

9. **Post-operative Arachnoiditis or epidural fibrosis**

Arachnoiditis and epidural fibrosis post-laminectomy is unavoidable. We always blame on scar formation whenever the patient has recurrent pain post-operatively. It is very hard to believe that the scar can cause nerve root compression, because at reexploration of the spine, it is always found that the scar occurs equally even on the asymptometic side. I believe that only the scar tissue cannot cause nerve root compression, but in adjunct to other condition such as stenosis, residual disc protrusion → the scar may aggravate the symptom.

10. **Inappropriate patient**

Psychosis and compensation elements are the potential causes for failure of back surgery. We often fail to recognize which patients have low pain tolerance and high psychologic involvement pre-operatively. Of course, most patients who have undergone several operations on the back will have some elements of both structural or psychogenic tract, but it is important to determine which is more significant.

At present, workman' s compensation play an important role as a cause of fail back surgery.

11. **Post-operative disc space infection**

This condition is also known as closed space infection, discits, and infection of vertebral interspace.

It is almost uniformly secondary to surgical discectomy. The symptoms and signs are as early as 4-5 days, or as late as 10 weeks post-operatively. Patient experiences severe pain which is described as " spasm in the back " Fever is not a prominent signs, it's absence may obscure the diagnosis.

X-rays appearance of fuzziness of the epiphyseal plate adjacent to the involved disc is the earliest sign, which will be followed by narrowing of disc space.

ESR is uniformly increased, which is most useful routine test.

12. **Poor bony structure and muscular support**

The results of spinal surgery partly depend on the nature of the underlying disease, such as osteoporosis, obesity, multisegmental

degeneration and degenerative scoliosis. Completely symptom relief or excellent result cannot be expected to obtain from these patients.