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Editorial

Ensuring Good Outcomes after Elective Spine Surgery

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Elective surgery for degenerative spinal conditions has a very high litigation rate [1]. The most common cause of litigation is informed consent and wrong level of surgery. This is also because the patients' expectations did not match the outcome of surgery [2]. It is the saddest situation that arises in clinical care as there is no malice on the part of the surgeon who provides the care. However, the doctor-patient relationship is destroyed after such an event.

This article details what I learned from my 30 years' experience as a practitioner of Spine surgery. Ensuring a good surgical outcome is essential for successful treatment. To secure a good outcome, a correct diagnosis is important. The following are where we can make errors.

History

There is a reason why we ask for presenting complaint first and later go through past history, finally reviewing previous imaging. Bypassing this important step and letting a patient insist on telling it his way; does not afford us the ability to review relevant symptoms with an open mind. Firmly insist that you need to come to an independent evaluation without being prejudiced by what is previously diagnosed [3]. This is also true for patients who will show you MRI scans before you have done a physical examination.

Physical examination

The most common clinical test performed, the supine straight leg test (SLR) is a very sensitive test. It overestimates the presence of nerve root compression by an intervertebral disc. It usually does not differentiate an acute disc compression of a nerve root; and the compression of the nerve root within the lateral canal or intervertebral foramen by a facet osteophyte or synovial cyst [4]. Consider doing a seated SLR test which can distinguish between these. It allows for a better clinical diagnosis and a reduced rate of imaging which does not correspond to the clinical situation.

Imaging

By far the most commonly available imaging for the spine is the MRI, which is ubiquitous now. If an MRI of the spine is requested routinely 'to check the spine',or used as a screening tool; it is more likely to show or over diagnose incidental conditions which are asymptomatic. This has implications for insurance coverage and is occasionally medico legal. The spine MRI is noted for having a false positive rate (over diagnosing a condition such as a disc protrusion). It is equally noted for having a false negative (under diagnosing conditions such as disc narrowing on axial spinal loading [5,6]. It is prudent to only obtain an MRI of the spine when a clinician is trying to confirm a clinical entity, or if surgery is contemplated. Remember the cardinal teaching, an MRI of the spine is useful when there are clear radicular symptoms or weakness of a limb. Remember also, imaging is just an adjunct to diagnosis. We do not treat images, we treat patients.

Spine procedures

It is tempting to do the latest and greatest spine procedures for your patient, such as instrumented fusions for various degenerative spinal conditions. It is not the technology that fails us but using the wrong technology for a given clinical condition. It is important to get a proper clinical diagnosis. There must be a risk - benefit evaluation of all treatment modalities before surgery is contemplated. We have very good data for early surgical follow up; but will this hold true after 10 or 20 years? Fusing a spine may change the mechanics of axial force distribution [7] and possibly create adjacent segment disease (ASD), junctional issues and loosening with migrating implants later.

Informed Consent

While these new procedures do help patients, a clear informed consent process detailing possible outcomes not only in the early (2-year period); but also what is to be expected after 10 or 20 years [8]. This will reduce the mismatched expectations of patients [2]. Interestingly, most jurisdictions will allow litigation for up to 7 years post procedure; what happens when the consequence of a spinal fusion manifests after 10 or 20 years?

Alternatives

The spine pain procedures such as percutaneous discectomy with lasers or RF, transforaminal injections and epidural injections are very effective for spine pain relief [9]. Not all patients need open surgery or fusion. Once a fusion is done, it usually cannot be reversed, however the pain procedures mentioned may be repeated, if required.

Maintaining a good doctor - Patient relationship

Key to having a satisfactory doctor - patient relationship is making sure the patient has clear understanding of the possible outcomes; good or bad, and how the bad outcomes are to be managed. This should be reflected in a discussion or in the consent [10]. Needless to say, the patient must be compliant with post-surgical instructions. If the doctor - patient relationship is disordered in any way; even a good outcome would not satisfy the patient.

Technology

We life in interesting times, as the popular saying goes. It is true for all the technology we have today to treat spinal conditions. Advances in material sciences, biology, and nanotechnology [10] will undoubtedly improve treatments for patients. But it is wise to remember to use the right tool for the right patient, one size does not fit all.

I have summarized what I believe are the points one must consider to ensure good outcomes after elective spine surgery.

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