



Biportal Endoscopy for Treatment of Vertebral Spine Diseases

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Degenerative spinal pathology has a high incidence throughout the world. It's very important identifying the incidence and prevalence of degenerative spinal pathologies. Demographic factors are relevant to understanding the risk, preventive measures to implement, treatment and outcome of spinal injuries. It is equally important to differentiate acute lesions from chronic degenerative pathologies.

Studies usually evaluate whether the prevalence of this pathology is affected by factors such as age, sex, obesity, among other potential risk factors.

Actually, a global prevalence of degenerative diseases of the spine is described as 27.3%, this value increases with the age. The prevalence of diagnosed disc disease was 2.7 times greater in those with radiology. Recently published results demonstrate that degenerative spinal pathology is common [1]. However, the incidence and prevalence values are probably underestimated since asymptomatic individuals do not receive a diagnosis of degenerative conditions, even if they are present in imaging tests if they are performed.

The initial treatment recommend for this pathology is conservative, includes analgesics, physiotherapy, and epidural steroid injections. The results and benefits of these approaches are variable.

Upon failure of conservative treatment, especially when neurological deficits are present with matched radiologic findings the surgical treats can be considered, decompressive and or discectomy in cases with disc herniation [2].

Since 1970, microscopic laminectomy and disc removal, for the treatment of stenosis and herniated discs respectively, have been the gold standard, however, over the last few years, the progress of minimal invasive approaches particularly endoscopic techniques with the development of new endoscopic instruments and video equipment has led to similar or superior outcomes to microscopic [3,4].

Developments of endoscopy created a subfield of minimally invasive spine surgery, less invasive than traditional open techniques, moves the point of visualization away from the surgeon's eye or microscope and puts it directly at the location of spine pathology [5].

To introduce the Biportal Endoscopic Spine Surgery (BESS) it's important to make a brief historical summary, returning in 1996 when De Antoni et al. published the first technical note related with endoscopy and instruments were inserted independently through two portals [6].

Two years later, the same group described, and reported clinical results, the use of standard arthroscopic instruments for improve

the quality of the image with magnification, illumination and irrigation [7].

Soliman, *et al.* published surgical results for lumbar disc herniation and spinal stenosis in 2013 and 2015, using BESS techniques, which is very similar to the current method [8,9].

The term biportal was used first in 2016, and Unilateral Biportal Endoscopy (UBE) was introduced in an article published in Korea [10-13].

Particularly in this country increased experience, innovations and the use of endoscope to treated more and more complex spine pathologies.

Actually the position of the field of endoscopic spine surgery is the result of using as small as possible incision, minimizing the damage in the soft tissue, endoscopic spine surgery evolved to solve various spine pathologies.

We currently have two spinal endoscopic techniques available one-portal and bi-portal, with one and two incisions respectively. Percutaneous one-portal endoscopic spine surgery has evolved from conventional spine techniques, and unilateral biportal endoscopic (UBE)/ Bi-portal Endoscopic Spine Surgery (BESS) spine surgery has been developed to overcome limitations of percutaneous one-portal endoscopic spine surgery. The most important advantage in biportal its the huge range of movements with the endoscope and the different instruments using during the surgery.

Present and future of BESS/UBE

As a result of all technical and technological advances during the last decade, with improvement the image quality and a wider variety of materials, as well as the greater experience of surgeons were able to apply the UBE technique to various pathologies in all the spine levels (cervical, thoracic and lumbar). The biportal approach permite, discectomy, decompression and can be also used in associated with minimally invasive spinal fixation techniques including 360° lumbar interbody fusion, under direct visualization.

The present and the future it will be increase the indication spectrum of endoscopic spine surgery is expected to become wider and possibly cover all types of degenerative spinal pathologies and others diseases like infections, tumors, vascular, etc.

I hope in next editions of this journal will continue present this technique, introduce the materials, basic concepts, different techniques.

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