

April 4, 2013

Dear Editor,

Please find enclosed the edited manuscript in Word format (file name: 2482-review.doc).

Title: Elastic module of resistance of the spinal motor unit; this is why the motion preservation surgery almost fails? editorial

Author: Landi Alessandro

Name of Journal: *World Journal of Clinical Cases*

ESPS Manuscript NO: 2482

The manuscript has been improved according to the format for editorial and to suggestions of reviewers: in particular:

Response to the reviewer

Reviewer 00735641 : as suggested by the reviewer, the manuscript was completely re-edited by an English native speaker. I kindly suggest some considerations about these commentary: this is an editorial, and for this reason is a personal opinion, related to a personal experience and a literature evidence, regarding a particular topic, particularly about dynamic systems to stabilize the spine (interspinous devices, dynamic peduncular systems, arthroplasty etc); Despite the numerous articles in literature focusing on the very good results about dynamic neutralization of the spine, as suggested by reviewer, the majority of these have not a sufficient long term follow-up. Nowadays some articles are published, with a sufficient long follow-up, analyzing the real efficacy of these devices and some of these reveals that these instrumentations fails because the degenerative process going on. So why it happens? My editorial focusing on a personal idea, based on a carefully study of biomechanics of the spine, of why these systems failed. so the conclusion that this editorial is poor because in literature there are some articles that concluded that these systems have very good results, in my opinion is not appropriate. To support this I have added so many articles about this aspect in the references list and I have amplified the discussion paragraph to support my thesis. In particular:

1 : for cervical arthroplasty there are some articles that revealed that this procedure have an high grade of heterotopic ossification and dislocation and did not prevent ASD. Moreover I have personal analyzed a 5 years follow-up of 35 cases of cervical arthroplasty implanted in my institute, and of these 24 cases have an heterotopic ossification and 4 a dislocation. (but this is an editorial, not a research article)

2 . for the interspinous devices the works in literature about failing of these systems are so many: for example there is a very important work of N Epstein in 2012 that revealed that these devices failed in a long term follow-up.

I want only underline that this editorial is a personal idea , moreover is a point of view trying to identify why, from a biomechanical point of view and supported by literature, these devices have a poor results in a long term follow up.

Reviewer 00724252

As suggested by reviewer, the term dynamic stabilization is frequently used to identify these type of surgery; despite this, I underline in the text why I prefer to use the term “dynamic neutralization”, supported by the literature in which this term was firstly used, focusing on the fact that the DYNESYS system is the abbreviation of DYNamic NEutralization SYStem.

The term peduncular screws are corrected in the text with pedicular screws.

The manuscript was completely re-edited by a native speaker.

Reviewer 01206496

The English was completely re-edited by a native speaker.

The abbreviations are elaborated at first place

Reviewer 02281177

I personally support the “principles and concepts” of dynamic neutralization of the spine, but I underline in the conclusion paragraph, that nowadays there materials and the projects are insufficient to reproduce the biomechanics of the spinal motor unit. So this is the reason, in my opinion, why the motion preservation surgery almost fail. Despite this, I think that this type of surgery, after a careful revision of concepts and projects and after a develop of new materials, will be the future of the spinal stabilization.

Regarding the efficacy of these systems, my response is the same of the previous reviewer.