DYNAMIC INTERSPINOUS DEVICE: CLINICAL RESULTS AND EXPANDED CLINICAL INDICATIONS

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DISCLOSURE

The authors have no personal financial or institutional interest in the devices described in this presentation.
INTRODUCTION

- 1940´s

- Interspinous device
  percutaneous, MIS, open
  PEEK, titanium, silicone
INTRODUCTION

- Viking® is a dynamic interspinous device designed to be shock absorber and to provide dynamic stabilization
- PEEK
INTRODUCTION

- Biomechanical effects:
  - unload the facet joints
  - restore foraminal height
  - provide stability (especially in extension)
  - allowing motion
INTRODUCTION - evidence

- Unloads disc pressure
  Zucherman et al. Spine. 2003; 28:26-32

- Randomized study of X-Stop against conservative treatment in stenosis. Superior at 2 years

- Results seem maintained at 4 years
INTRODUCTION - indications

- Stenosis with neurogenic claudication
  Acceptable evidence

- Instability – degenerative spondylolisthesis
  Biomechanical evidence

- Gross instability – lytic spondylolisthesis
  No way!
MATERIAL AND METHODS

- **Purpose:**
  - safety
  - effectiveness
  - validation of new surgical indications

- **Retrospective study**
- **November 2007 to November 2009 (Clínica Neurológica e da Coluna Vertebral)**
- **91 interspinous devices (82 patients)**
  - 46 interspinous devices (43 patients)
MATERIAL AND METHODS

- Clinical outcomes were recorded with the following scores:

  modified Oswestry low back pain disability questionnaire (m Oswestry) and Visual Analog Scale (VAS), at the following intervals: preoperatively, 6 weeks, 3, 6, 9, 12 ou 24 months

  intra-operative and postoperative complications

  work status
RESULTS

- 46 interspinous devices (Viking®)
- 43 patients, 23 ♀ e 20 ♂
- The average age was 47 (range 13 to 69)
- 40 one level cases, 3 two level cases (46 Viking®)
  - L3-L4: 5
  - L4-L5: 36
  - L5-S1: 5

- No intra-operative or postoperative complications
- The operative time averaged 67 minutes (range 25 to 103 minutes)
- Discharge from hospital averaged 2 days (range 1 to 3 days)
- Average of 11 months follow up (range 6 to 24 months)
- No reoperations
Surgical Indications (%)

- "Lumbar disc herniation" (23%)
- Lumbar spinal stenosis (20%)
- Facet joint syndrome (19%)
- Degenerative disc disease (17%)
- Foraminal stenosis (12%)
- Spondylolisthesis (7%)
- Lateral recess syndrome (5%)
Surgical Approach

- Interspinous device
- Interspinous device + conservative decompression
- Interspinous device + discectomy
- Interspinous device + fibrosis release
CONCLUSIONS

- Interspinous implants are recommended for:
  - central/foraminal spinal stenosis
  - degenerative pathologies of intervertebral disc and facet joints
  - a second discectomy for recurrence of herniated disc
  - discectomy for voluminous herniated disc leading to substantial loss of disc material
  - spondylolisthesis grade I
CONCLUSIONS

- Safe
- Pain relief and function improvement
- Combined surgical approaches
- Lack of complications and reoperations
- Alternative to fusion and disc replacement surgery
- Additional data and longer term follow up are ongoing
Thank you for your attention