

**Predictors for dural lesions requiring surgical measures
in the treatment of spinal canal stenosis:
comparison of a single center with the “reliable” and all
other Spine Tango clinics**

Munting E (MD PhD), Röder C (MD, PhD), Sobottke (MD PhD), Aghayev E (MD PhD)
on behalf of Spine Tango Contributors

Clinique Saint Pierre, Ottignies, Belgium
Institute for Evaluative Research in Medicine, Bern, Switzerland

Background

- Symptomatic lumbar spinal stenosis
- Surgical treatment
- Dural lesion is its most frequent complication

Goal:

Predictors for dural lesions
requiring a surgical intervention



Methods

Inclusion criteria:

- Spine Tango cases (form versions 05/06) (winter 2005-winter 2012)
- lumbar spinal stenosis with posterior decompression

A total of 9'545 patients identified

- n=645 from the first “author`s center “
- n=1'962 from five international “reliable” clinics with known and credible recording of all surgical complications
- n=6'938 from “all other” Spine Tango clinics

Methods

Multivariate Regression analysis

- Outcome measure = dural lesion that required a surgical measure
- Potential predictors
 - patient age
 - gender
 - previous surgery (yes/no)
 - extension of lesion (1/2-3/4-5/ ≥ 5 segments)
 - type of surgical treatment (deco only/ deco with instrumented fusion)

Definition of Dural Lesion requiring a surgical measure

In total 843 different measures in 797 patients with a dura lesion:

- *a dura lesion followed by an intervention during surgery (n=350)*
- *a dura lesion followed by a re-intervention after surgery (n=147)*
- *a dura lesion followed by a conservative treatment (n=158)*
- *a dura lesion followed by a conservative functional treatment (n=35)*
- *a dura lesion followed by an extended hospital stay (n=124)*
- *a dura lesion followed by an “other” measure (n=29)*

Results

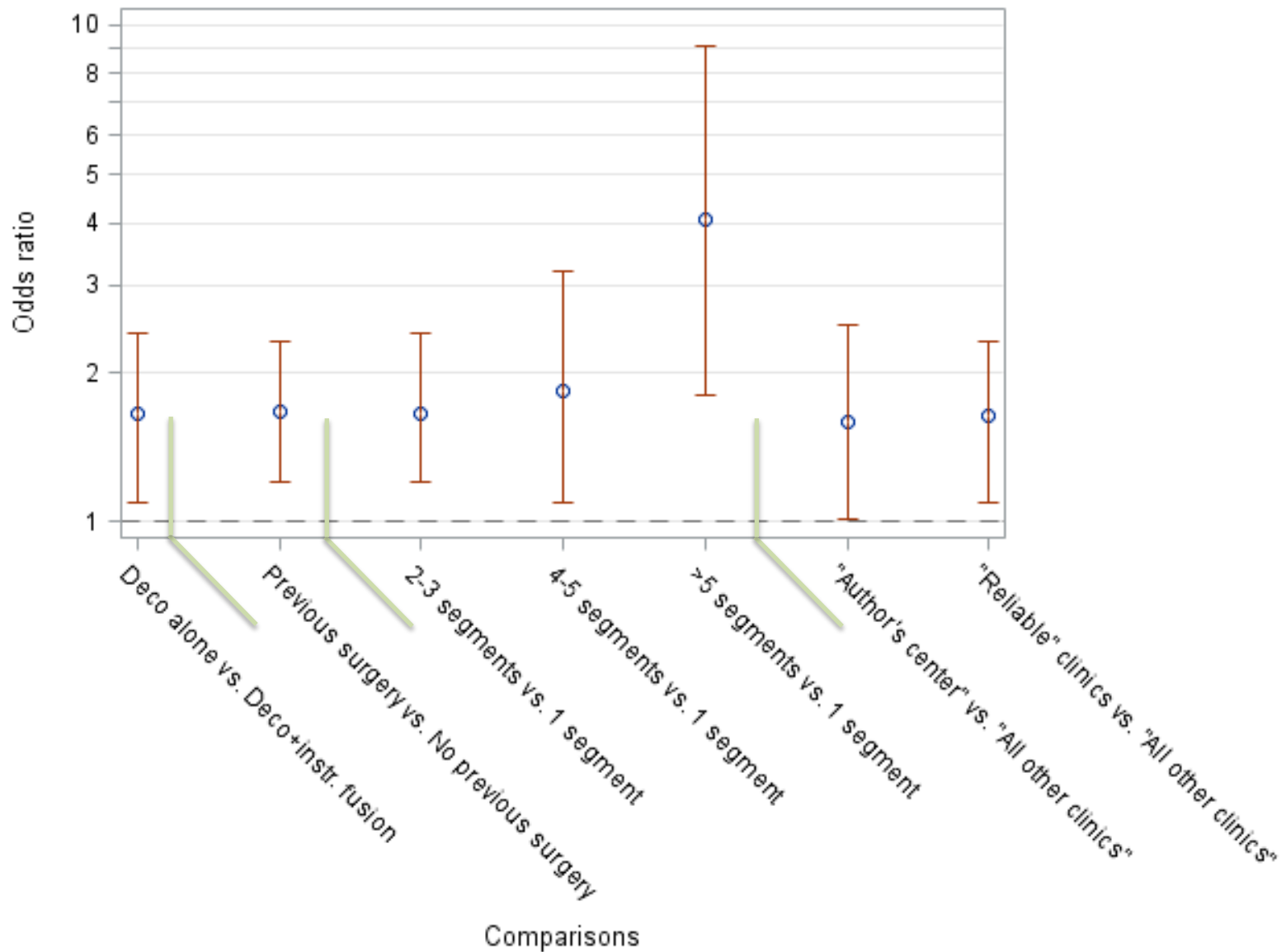
Raw dural lesion rates:

First author's center – 11.2%

“Reliable” clinics – 6.6%

All other Tango clinics – 3.0%

Results



Results

Effect	OR	Lower 95%CI	Upper 95%CI
Deco alone vs. Deco+instr. fusion	1.65	1.1	2.4
Previous surgery vs. No previous surgery	1.67	1.2	2.3
2-3 segments vs. 1 segment	1.65	1.2	2.4
4-5 segments vs. 1 segment	1.84	1.1	3.2
>5 segments vs. 1 segment	4.06	1.8	9.1
"Author's center" vs. "All other clinics"	1.59	1.0	2.5
"Reliable" clinics vs. "All other clinics"	1.63	1.1	2.3

Similar adjusted Likelihood for a dura lesion requiring a surgical measure in the «authors center» and in «reliable» clinics in comparison to «all other clinics».

Conclusions

- Documentation of surgical complications in the Spine Tango registry relies on individual surgeons` and clinics` honesty
- A Spine Tango code of conduct will be introduced in 2013 to foster honest, transparent and monitored documentation.

Conclusions

- The difference in proportions of relevant dural tears between the single center and reliable clinics was not significant and even reversed after case mix adjustment, which shows the importance of adjusted analyses
- Dural lesion rates of the reliable Spine Tango centers can probably serve as authentic benchmark
- Deco alone, previous spinal surgery and larger extension of lesion are significant predictors for relevant dural lesions in spinal canal stenosis surgery in the Spine Tango dataset

Disclosure declaration

none of the authors has any potential conflict of interest