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Complications after long posterior instrumentation in patients with cervicothoracic fractures related to ankylosing spine disease

Yohan Robinson,

Anna-Lena Raninen, Claes Olerud

Uppsala University Hospital

Sweden

EuroSpine Liverpool, ePoster

yohan.robinson@surgsci.uu.se



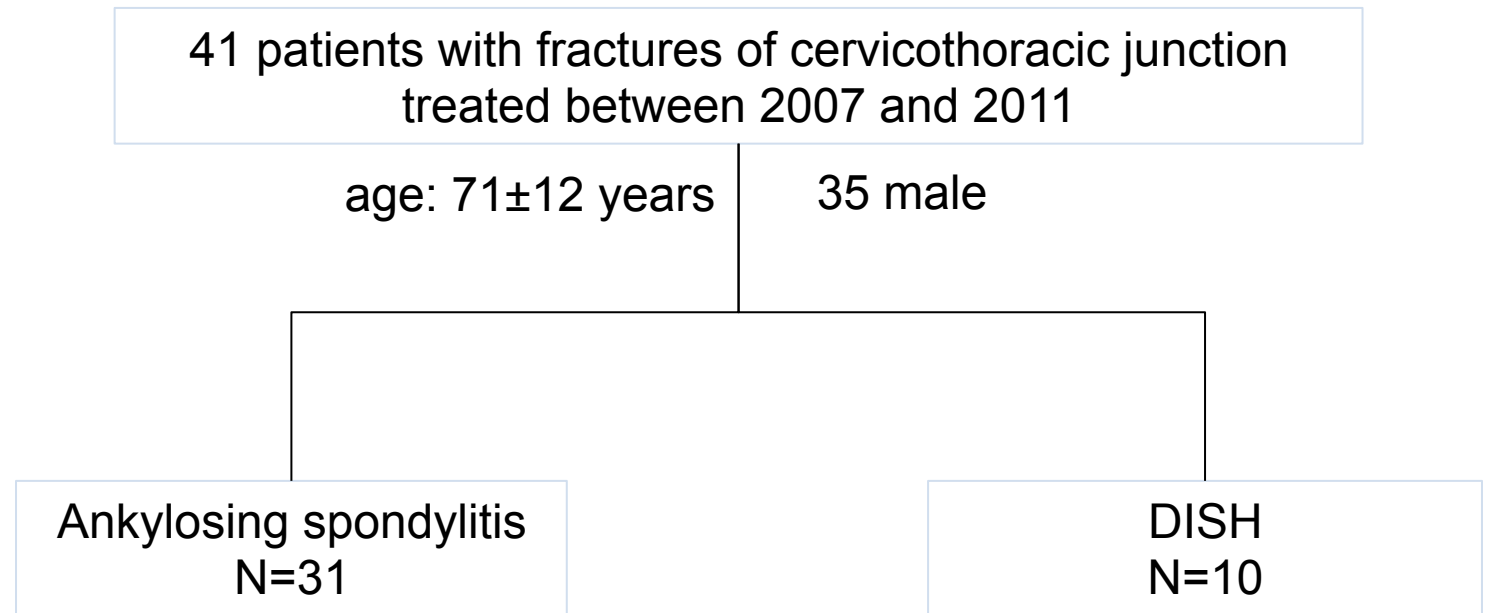


Background

- The biomechanical rationale of long posterior instrumentation is neutralisation of long lever arms
- Associated soft tissue injury may lead to muscle necrosis
- Posterior access traumatises additionally posterior erector spinae, trapezius and superior rhomboid muscles.
- Soft-tissue complications likely



Patients and methods





Patients and Methods

Neurological deficit	n
Frankel A	6
Frankel B	0
Frankel C	4
Frankel D	1
Frankel E	30

- Surgical levels:
 - 5% occipitothoracic
 - 5% atlantothoracic
 - 90% axiothoracic
- surgical time was 255 ± 90 min [80; 488]
- bleeding 2128 ± 3005 ml [300; 17000].



Operation details

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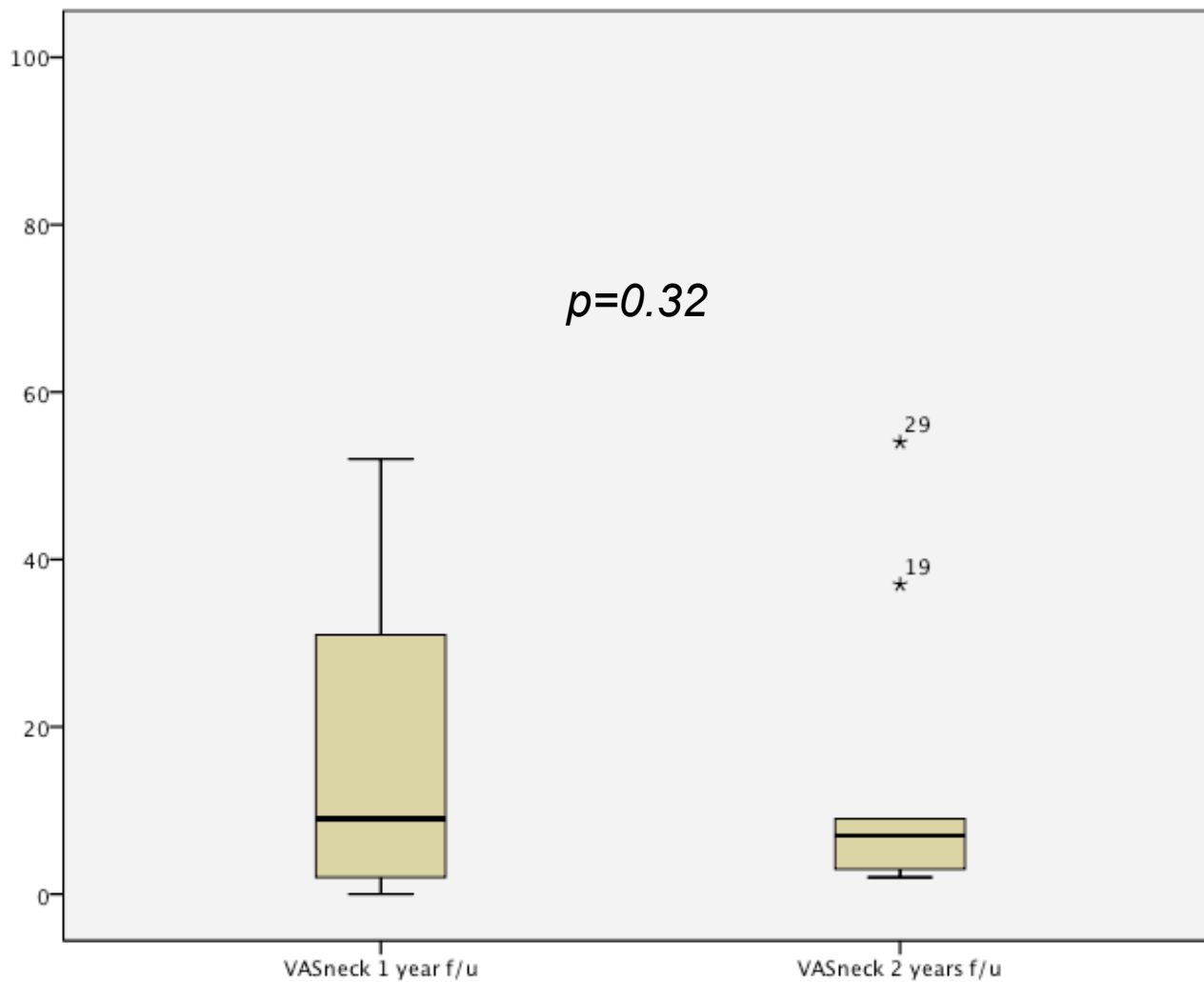


Complications

Complication	n
Wound infection	5 (12%)
Pneumonia	3 (7%)
Tracheostomy	2 (5%)
Dural tear	1 (2%)

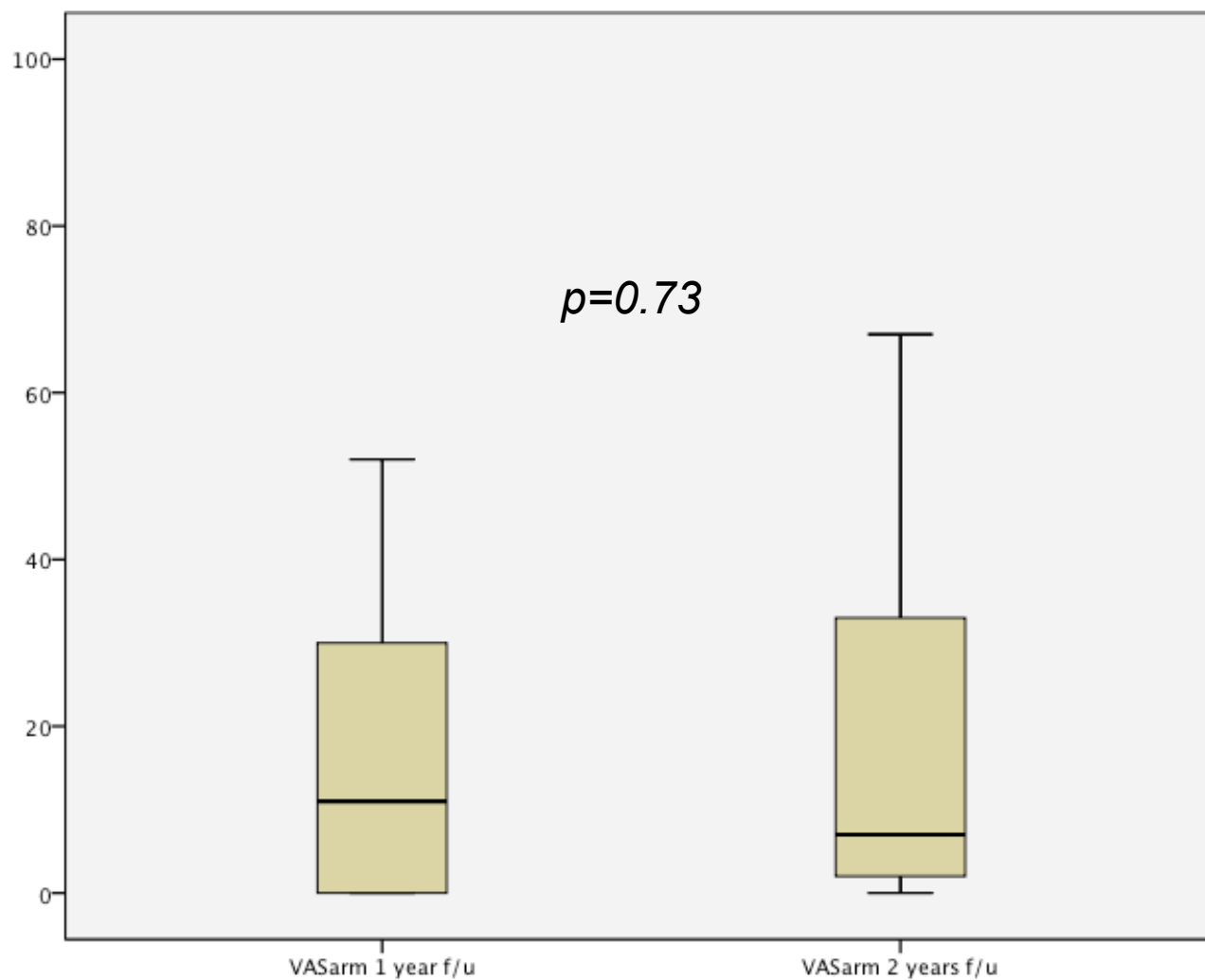


Neck pain





Arm pain





Discussion

- Wound infection rate in long posterior cervical fusions is higher after fractures than in cases with RA related instability
 - » Robinson et al (CSRS-ES 2013)
 - soft tissue trauma associated with the fracture
 - Preexisting kyphosis with increases skin tension
 - Wide muscular exposure for long cervical stabilisation
 - More bleeding due to fracture and soft tissue injury



Discussion

- No mechanical complications were observed
- All fractures healed
- Only little pain was reported 1 and 2 years postop



Conclusion

- Despite serious complications is long posterior instrumentation still the method of choice in cervical fractures related to AS or DISH
- Careful surgical technique and soft tissue management can possibly minimise postoperative wound infections



Disclosures

- YR:
 - Consulting (DePuy Synthes, Medtronic)
 - Board membership (CSRS-ES, AOSpine)
- ALR:
 - None
- CO:
 - Consulting (DePuy Synthes, Medtronic)
 - Board membership (CSRS-ES)