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lumbopelvic stabilization of sacral fracture

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Background

- » **3-8 % of all fractures are fractures of the pelvis**
- » **25% of patients with pelvic fractures have fractures of the sacrum**
- » **Isolated fractures of the sacrum are rare**
- » **Therapy:**
 - » **Conservative**
 - » **Operative**
 - » Iliosacral screw
 - » Plate
 - » Lumbopelvic stabilization

Aim of the study

- » **Evaluate the outcome of lumbopelvic stabilization after sacral fracture**

Methods

- » **retrospective study**
- » **searching the database for ICD-10-code S32**
- » **01-01-2013 to 12-15-2016**
- » **Inclusion criteria: Sacral fracture and lumbopelvic stabilization**
- » **Inclusion of 19 patients**
- » **Follow-up time of 12 months**

Indication of operative treatment

Open procedures (midline incision):

- » I. fracture Denis Type II or III with a neurological deficit
or
- » II. fracture Type 2 to 4 grouped after the Roy-Camille classification

Minimal invasive stabilization (MIS):

- » I. fracture Denis Type II or III without a neurological deficit
or
- » II. fracture Type I Roy-Camille classification

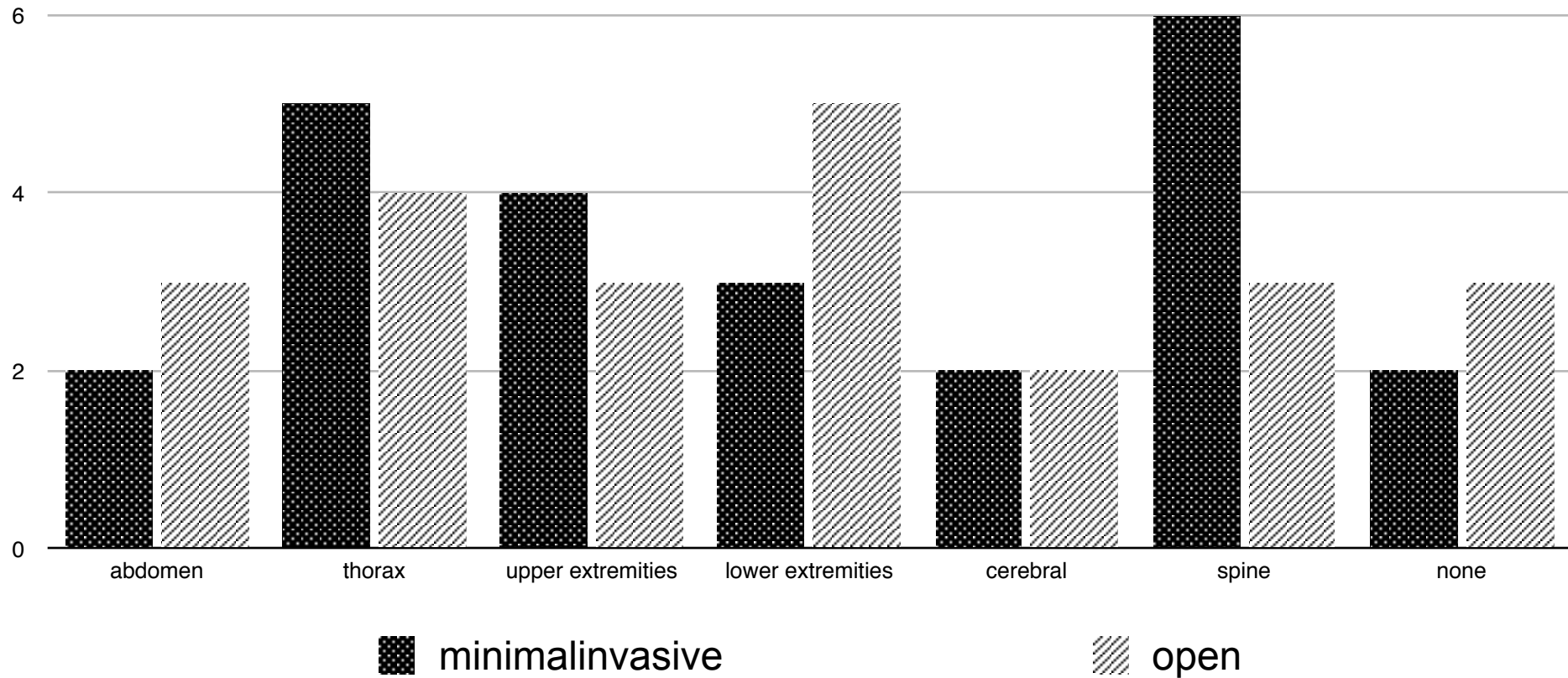


Patient characteristics

	MIS	OPEN
Average Age (y)	64	54
Female (n)	6	3
Male (n)	5	5
Sacrumfracture Denis II	2	1
Denis III	9	6
dislocation fracture of the iliosacral joint	0	1
trauma mechanism		
Fall	6	6
Motorvehicle Accident	5	1
Entombment	0	1
postoperative infection/wound healing	0	2
inpatient residence time (d)	24	52
Implant Missplacement (CT)	0	0



Concomitant injuries



Neurological deficits after open procedure

<i>presurgical</i>	<i>postoperative and follow-up</i>
<i>hypesthesia of both feet</i>	<i>completely regressed</i>
<i>missing tone of the sphincter</i>	<i>completely regressed</i>
<i>loss of bladder and bowel control</i>	<i>urinary incontinence</i>
<i>(tetraparesis)(cerebral trauma)</i>	<i>(regressed)</i>
<i>no preoperative neurological status</i>	<i>weak foot dorsiflexion</i>

Neurological deficits after MIS procedure

<i>presurgical</i>	<i>postoperative and follow-up</i>
<i> paresis of the foot dorsiflexion on one side</i>	<i> persistent</i>

Summary

- » **Indication for open or minimal-invasive procedure depends on grade of dislocation or neurological deficits**
- » **Open procedures: higher rate of postoperative infections and residence time**
- » **Open procedure group: patients suffered the more complex trauma particularly accompanied by other severe injuries**

Conclusion

- » **Avoidance of direct comparison because of different indications for both procedures**
- » **Minimalinvasive lumbopelvic stabilization: less risk of infection, a shorter inpatient residence time**
- » **Open lumbopelvic stabilization with additional decompression: show excellent results in case of neurological deficits**

Disclosure information

The authors confirm that there are no conflicts of interests.