

RENAL TRAUMA

WHAT CHANGED IN THE PAST DECADE

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INTRODUCTION

The **kidney** is the most commonly affected organ of the genitourinary system in traumatic injuries (1-5% of all trauma cases). The availability of minimally invasive techniques has changed the paradigm of how it is approached, as well as treatment results.

Objectives: To compare the different treatment modalities applied and their results on renal trauma patients **before** and **after 2010**. Also, to analyze and compare the demographics, trauma characteristics and clinical presentation in both decades.

MATERIALS & METHODS

Retrospective study of renal trauma patients between January/**2000** e September/**2016**

- **Demographics** (age, gender)
- Mechanism and conditions surrounding the trauma
- **Grading** (according to the American Association for the Surgery of Trauma – AAST – scale)
- **Clinical status** at admission
- **Treatment** modality and rate of **renal preservation**

Groups compared: renal trauma occurring **before** and **after 2010**

RESULTS

171 patients (114 before 2010)

Mean age of **42,92 years** (+/- 23,09; min. 12; max. 95)

82,5% males (younger than females; 40,2 vs 53,6 years; $p < 0,001$)



Clinical presentation (global rates)	
Flank / abdominal pain	82,9%
Hematuria	66,7%
Flank ecchymosis	11,3%

at admission

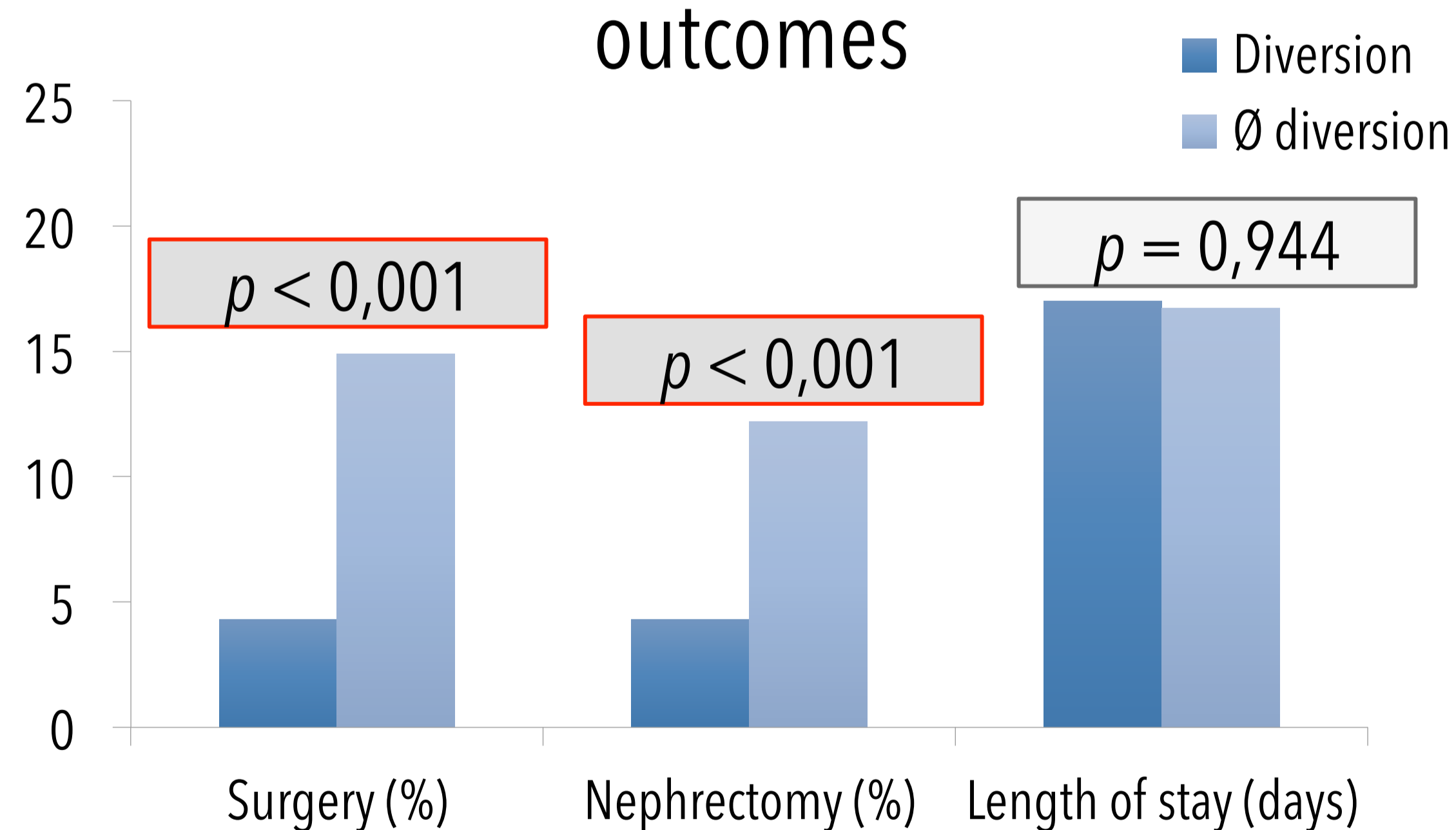
	before 2010	after 2010	<i>p</i>
Age (years)	37,37	54,02	<0,001
Hemoglobine (g/dL) ¹	11,95	11,81	0,703
Creatinine (mg/dL) ¹	1,22	1,26	0,789
BUN (mg/dL) ¹	21,07	24,55	0,099

¹ at first observation in the emergency department

Invasive treatment (global rates)	
Surgical exploration	13,5%
Nephrectomy ¹	11,1%
Selective embolization ²	3,5%

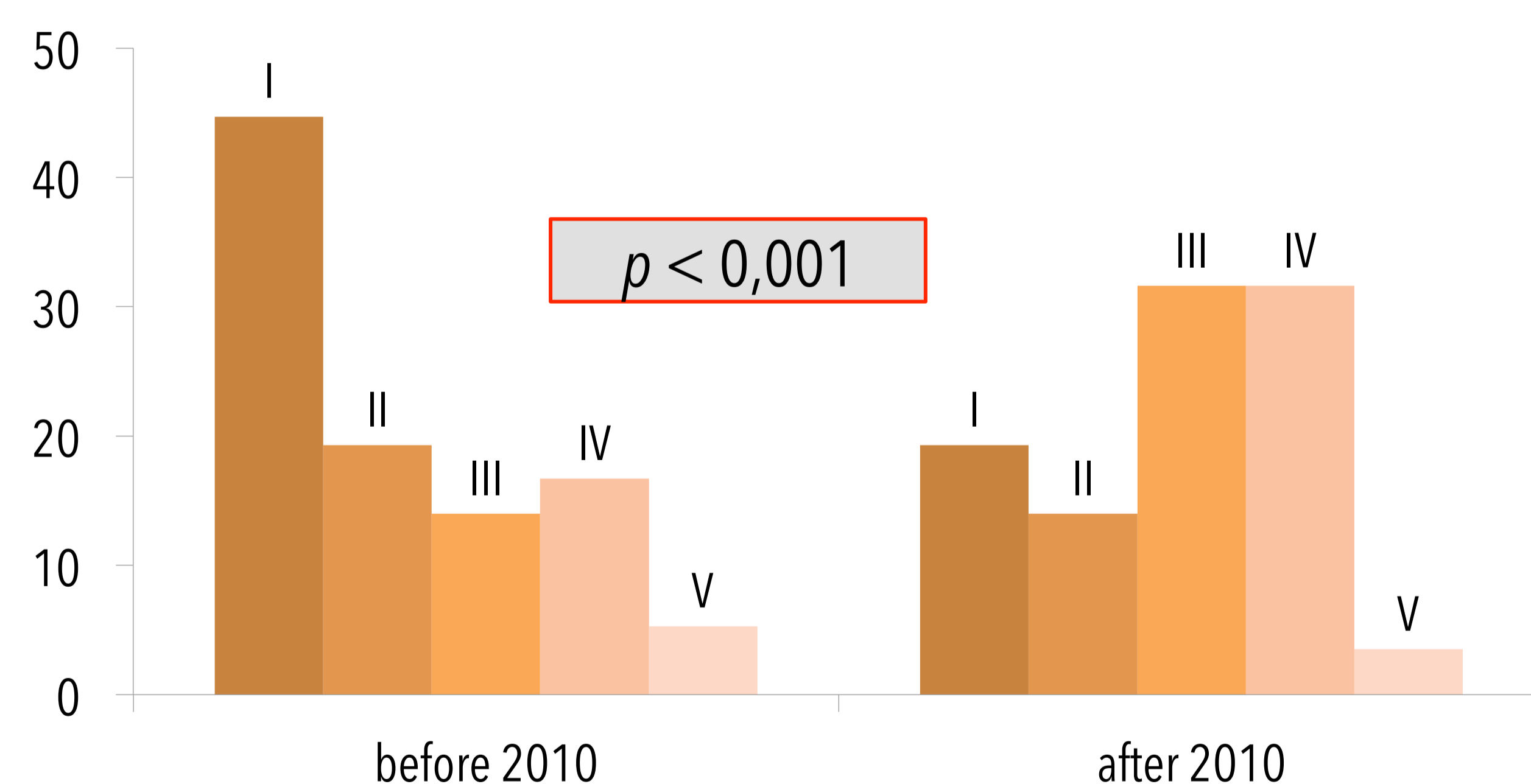
¹ 82,2% of those who underwent surgery
² All after 2010

Impact of urinary diversion on outcomes



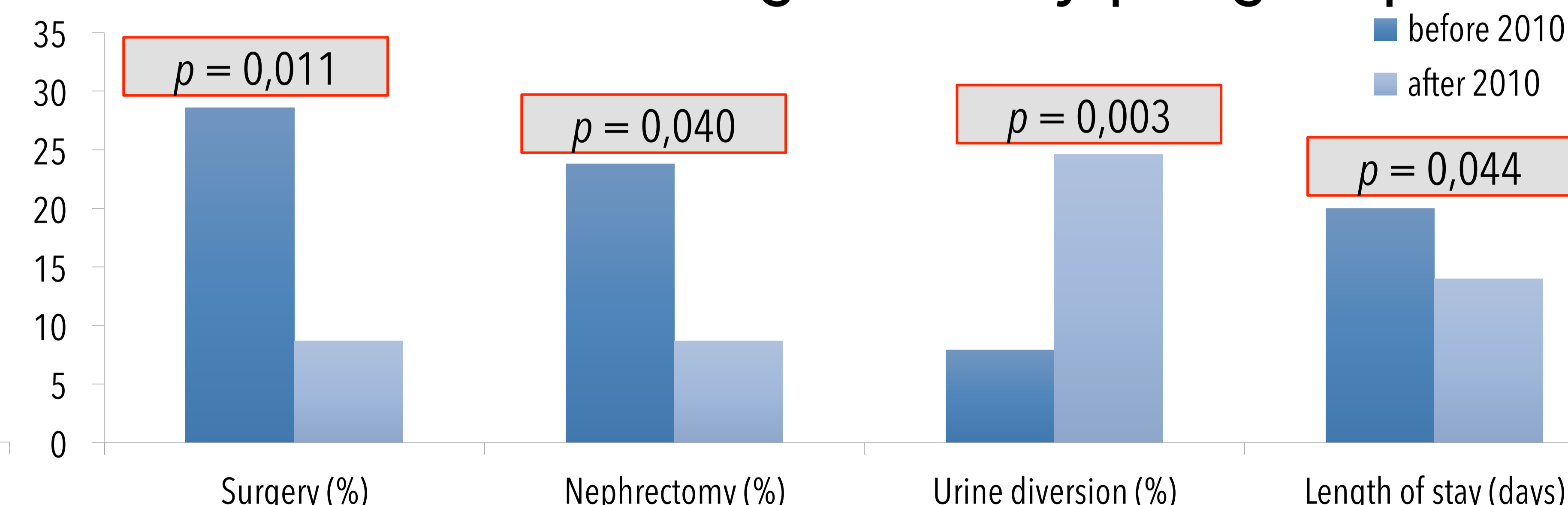
Results in patients who had a urine diversion procedure vs those who did not

AAST Grade



Comparing the frequency of each grade between the two groups (shown in percentage)

Treatment & Length of stay per group



Rates of surgical exploration, nephrectomy, urine diversion procedures and length of hospital stay

CONCLUSIONS

After 2010, the tendency towards a more **conservative approach** to renal trauma patients was increasingly more evident. Patients who had urine diversion procedures were less operated on, and did not have their hospital stay prolonged. Significantly less **surgical explorations** were performed, even though patients were **older** and had **more severe** traumas. **Renal preservation rate** was higher and **length of hospital stay** was shorter in the most recent group.



Available at:
<http://hdl.handle.net/10400.4/2015>