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## Hypothesis / aims of the study:

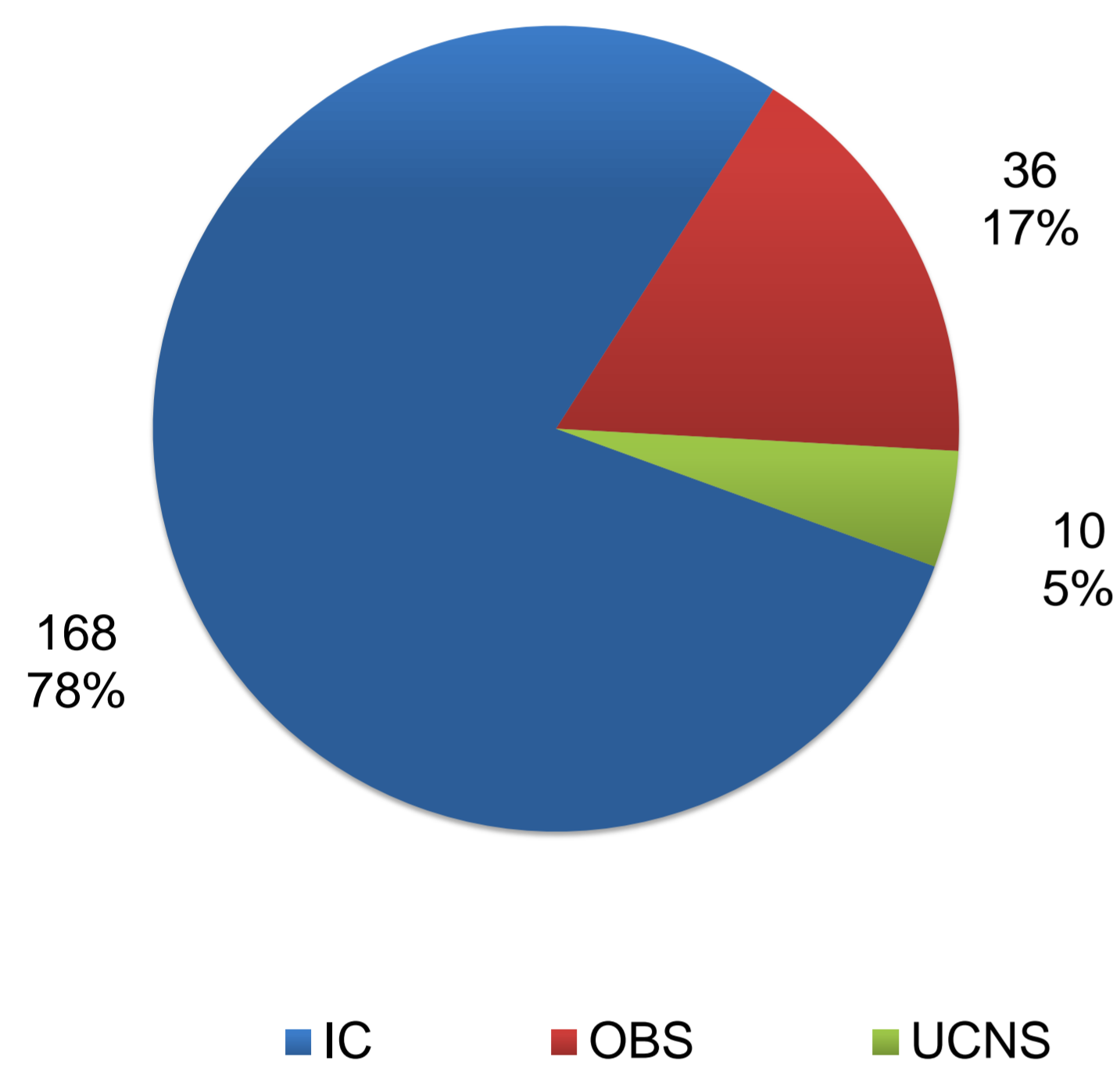
Surgical treatment and postoperative management of elderly patients poses a challenge due to the presence of comorbidities. Here we assess the complication rate and oncological outcome after cystectomy and urinary diversion in patients aged 75 years and older.

## Study design, material and methods:

Study design: retrospective cohort single centre study. From January 2000 to March 2013, a consecutive series of elderly bladder cancer patients (>75yr) who underwent radical cystectomy and urinary diversion (ileal orthotopic bladder substitution (OBS), ileal conduit (IC) and ureterocutaneostomy (UCNS)) were included in this analysis. Endpoints were the 30-day complication rate according to the Clavien-Dindo classification, the 90-day mortality rate, overall survival and cancer specific survival using the Kaplan Meier technique.

## Results & Discussion:

### Type of urinary diversion

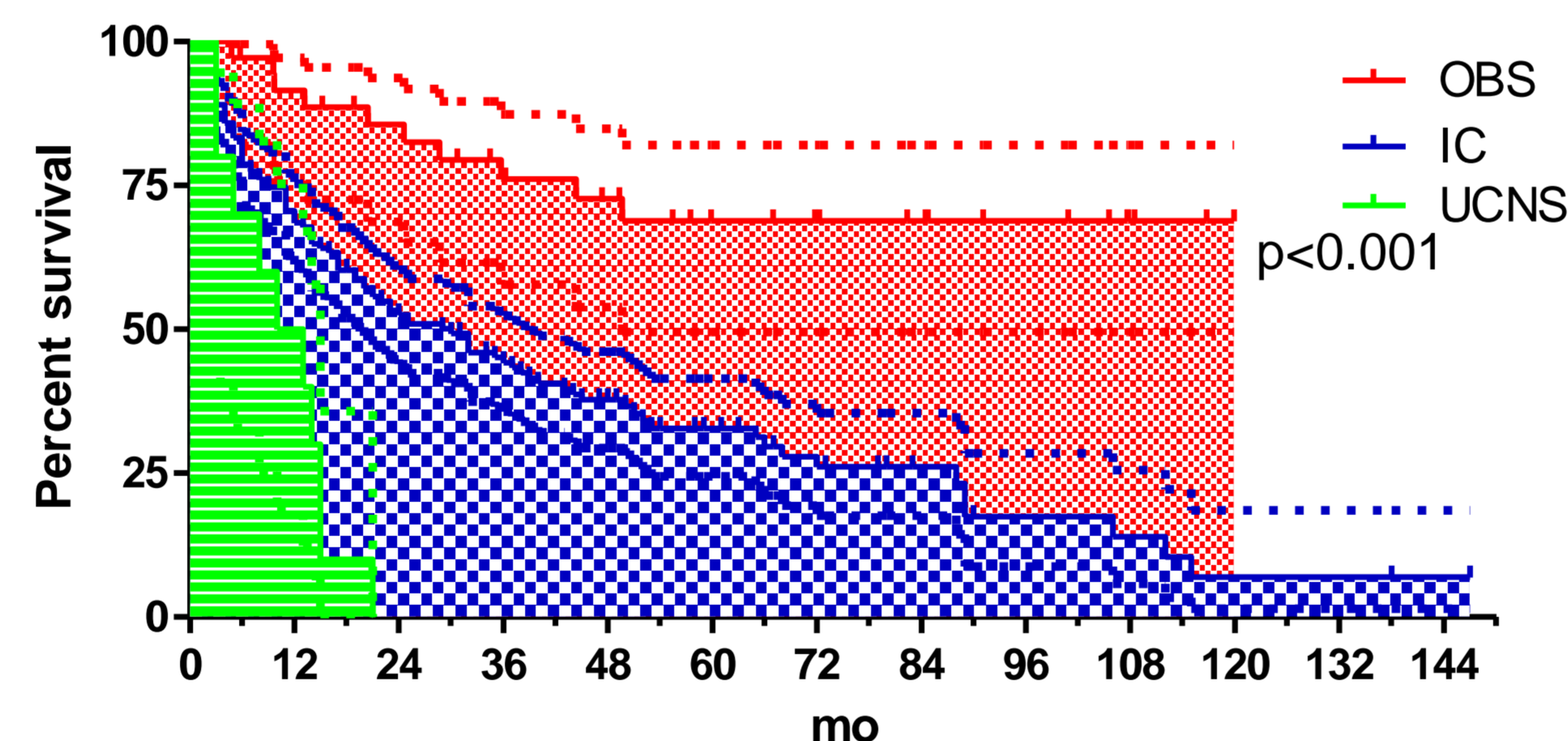


T status	OBS	IC	UCNS	
Confined (T1-T2)	24 (66%)	69 (41%)	4 (40%)	
Locally advanced (T3-T4)	12 (34%)	99 (59%)	6 (60%)	p=0.018
N status				
N0	33 (91%)	119 (71%)	7 (70%)	
N(+)	3 (9%)	49 (29%)	3 (30%)	p=0.032
ASA score	OBS	IC	UCNS	
<=2	25 (69%)	48 (29%)	1 (10%)	
>2	11 (31%)	120 (71%)	9 (90%)	p<0.001
Age adjusted Charlson Score				
0 to 2	1 (3%)	0	0	
3 to 5	30 (83%)	89 (53%)	4 (40%)	
>=6	5 (14%)	79 (47%)	6 (60%)	p<0.001

### 30-day complication rate

Complication	OBS	IC	UCNS	
Minor	43%	31%	30%	
Major	11%	18%	40%	
Total	54%	49%	70%	p=0.227

### Overall survival



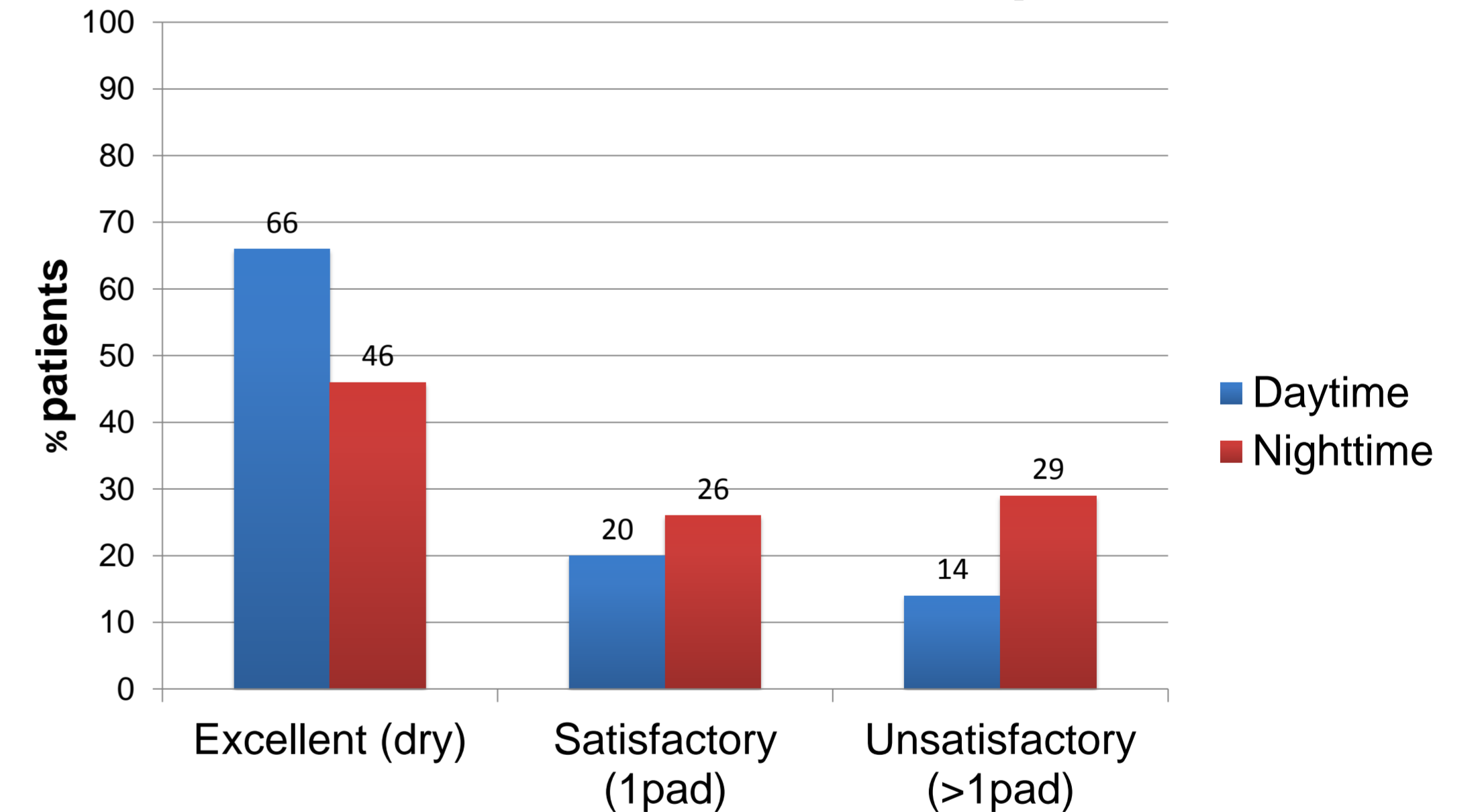
Type of diversion	Estimate OS mo (95% CI)
OBS	90 (75-106)
IC	48 (39-58)
UCNS	10 (7-14)

### 90-day mortality rate

Type of diversion	Rate
OBS	0%
IC	9%
UCNS	10%

p=0.115

### Continence rates in 36 OBS patients



214 consecutive patients were included (median age 80.1yr [range: 75.1-92.8]). Median follow-up was 19.9 mo (range: 0.04-147). Median P-POSSUM score were 42 (range: 34-60) in the OBS group, 48 (range: 32-70) in the IC group and 48 (33-67) in the UCNS group; p=0.0013.

Estimated overall survival was 90 mo (95% CI: 75-106) in the OBS, 48 mo (95% CI: 39-58) in the IC group and 10 mo (95% CI: 7-14) in the UCNS group (p<0.0001). Estimated 5 yr overall survival was 69% in the OBS group, 34% in the IC group and 0% in the UCNS group.

Estimated cancer specific survival was 85 mo (95% CI: 70-100) in the OBS group, 90 mo (95% CI: 79-103) in the IC group and 12 mo (95% CI: 6-18) in the UCNS group (p=0.214).

## Interpretation of the results:

In this old highly morbid patients' series cystectomy and urinary diversion has an acceptable outcome. Patient selection and not type of surgery significantly impacts the complication rate and overall survival. Age as sole criteria should not preclude the indication for radical cystectomy including the use of ileal orthotopic bladder substitution. In well selected elderly patients undergoing open radical cystectomy and orthotopic bladder substitution, satisfactory continence results can be achieved.

## Concluding message:

In carefully selected elderly patients cystectomy and urinary diversion is a good option. Age as a sole criterium should not preclude the indication for this surgery including the use of ileal orthotopic bladder substitution.