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Perioperative outcomes of transurethral resection, open prostatectomy and laser therapy in the surgical treatment of benign prostatic obstruction: a “real world” data analysis of the German D.V.P.Z.* from 2005-2017 with 10,420 patients

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*D.V.P.Z. = Dachverband der Prostatazentren Deutschlands e.v. (Governing Body of German Prostate Centers)

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Objectives: To compare length of hospital stay, transfusion rates, and re-intervention rates for transurethral resection of the prostate (TUR-P), open prostatectomy (OP), and laser therapy (LT) used for surgical treatment of benign prostatic obstuction (BPO).

Materials & methods: The D.V.P.Z. is an organization, in which clinical data of prostatic diseases from 2 university clinics, 19 treatment clinics, 3 private clinics and 270 office-based urologists are collected in order to document the quality and type of cross-sectoral and interdisciplinary treatment. Data on diagnostics, therapy and course of disease are recorded web-based. The analysis includes datasets from 2005-2017.

	TUR-P	OP	LT	
n	8,389	1,334	697	
	Median (IQR)	Median (IQR)	Median (IQR)	p-value
Age (years)	72 (65-77)	72 (66-77)	73 (66-77)	0,032
PSA (ng/ml)	3.3 (1.6-3.3)	5.9 (3.3-5.9)	2.7 (1.2-5.1)	<0,001
Prostatevolume (ml)	45 (32-96)	87 (62-110)	45,5(33-63)	<0,001
IPSS-S	19 (13-19)	19 (14-19)	19 (13-25)	0,684
IPSS-L	4 (3-5)	4 (3-5)	4 (3-5)	0,123

Tab.1: Patients characteristics for TUR-Prostate (TUR-P), open prostatectomy (OP), and laser therapy (LT)

Results: Of 10,420 patients, 8,389 (80.5%) were treated with TUR-P, 1,334 (12.8%) with OP, and 697 (6.7%) with LT. Patients characteristics are shown in Tab.1 Median length of hospital stay was 6 days (IQR: 4-7) for TUR-P, 9 days (IQR: 7-11) for OP, and 5 days (IQR: 4-6) for LT (p<0.001) (Fig.1) Transfusion- and Re-Intervention rates are shown in Fig.2. OP had a significantly higher risk for transfusions than TUR-P (OR: 2.44; 95% CI 1.74-3.41; p<0.001) and LT (OR: 3.32; 95% CI 1.56-7.01; p<0.001). Transfusion rates were not significantly different between TUR-P versus LT (OR: 1.36; 95% CI 0.66-2.79; *p*=0.51). Risk for a hospital stay ≥7 days was higher for OP versus TUR-P (OR: 7.25; 95% CI 6.27-8.36; p<0.001) and LT (OR: 17.89; 95% CI 14.12-22.65; p<0.001); and higher for TUR-P versus LT (OR: 2.47; 95% CI 2.03-3.01; *p<0.001*). No differences were seen in re-intervention rates between TUR-P versus OP (OR: 1.14; 95% CI 0.88-1.48; *p*=0.34) and LT (OR: 1.39; 95% CI 0.96-2.02; *p*=0.8), and between OP versus LT (OR: 1.22; 95% CI 0.79-1.89; *p*=0.39).

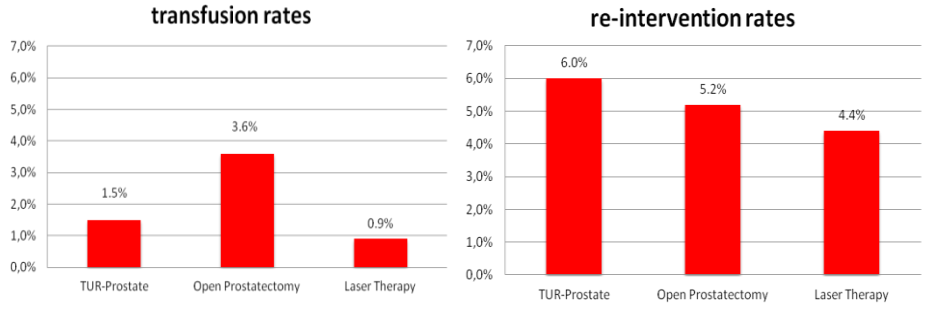

Fig.2: Transfusion- and Re-intervention rates.

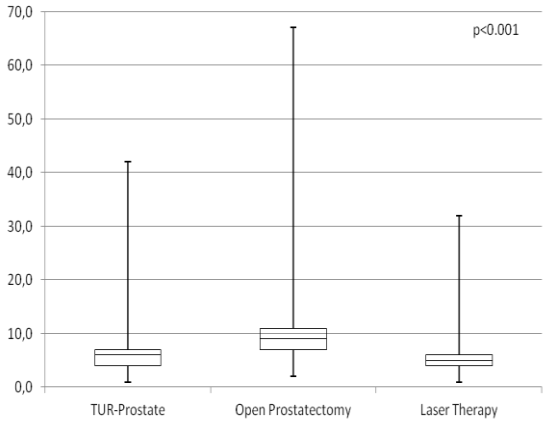

Fig.1: Days of hospitalization (Median, IQR, Min, Max)

Conclusions:

- The D.V.P.Z. database provides health service research data on the surgical treatment of BPO.
- OP was associated with higher transfusion rates and longer hospital stay than TUR-P and LT.
- Risk of transfusion was not different between TURP and LT, but TUR-P was inferior to LT concerning length of hospital stay.
- Re-intervention rates did not differ between the groups.

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