

Feasibility of ejaculation preservation technique of Holmium laser enucleation of prostate (HoLEP)

Hypothesis / aims of study

Retrograde ejaculation frequently occurs after enucleation of prostate due to benign prostate hyperplasia. Recently, ejaculation preservation technique in transurethral prostatectomy and Green Light laser photovaporization of prostate which demonstrated over 80% of antegrade ejaculation preservation rate has been introduced. The authors aimed to investigate the feasibility of ejaculation preservation technique in Holmium laser enucleation of prostate (HoLEP)

Study design, materials and methods

Medical records of 85 men who underwent HoLEP due to LUTS/BPH between June 2010 and May 2011 were reviewed retrospectively. Before the operation, patient's ejaculatory function was evaluated. We excluded those who failed to ejaculate in more than 20% of their sexual activity during the last 4 weeks. Those who felt that their ejaculatory function was satisfactory were allocated to either ejaculation preserving-HoLEP (EP-HoLEP) group (Group A) or conventional HoLEP group (Group B). Unlike conventional HoLEP, pericollicular tissue preserving technique was applied in EP-HoLEP group. 52 patients were successfully followed up for over 3 months postoperatively and were eligible for analysis. There were 26 patients in each group. Patient was assessed to have preserved ejaculatory function if the patient answered to have antegrade ejaculation regardless of ejaculatory volume during 1, 3, and 6-months follow up at the out-patient department.

Results

There were no differences in pre- and intra-operative factors such as age, prostate volume, operation time, and used laser energy. In group A, there were 3 (11.5%), 6 (23.1%), and 17 (65.4%) cases of normal antegrade ejaculation, antegrade ejaculation with decreased volume, and diminished ejaculatory volume, respectively. In contrast, Group B consisted of 0 (0%), 5 (19.2%), and 21 (80.8%) cases, respectively. Ejaculation preservation rate was 34.6% in group A and 19.2% in group B. The odds ratio was found to be 2.2 but statistical significant was not demonstrated ($p=0.211$) (Table).

Interpretation of results

Despite application of ejaculation preservation technique to HoLEP, ejaculation function could not be significantly improved. It is speculated that leaving more adenoma tissue around the verumontanum and the apex of the prostate may further improve ejaculation function.

Concluding message

Ejaculation preservation technique is in conflict with the value of HoLEP which is to completely enucleate prostatic adenoma. Therefore, preservation of ejaculation function seem to hardly be possible when performing HoLEP

Table 1. Patient's pre-operative and post-operative characteristics

Average $\pm$ SD	Group A (n=26)	Group B (n=26)	P value
Prostate volume (ml)	60.0 $\pm$ 21.6	64.8 $\pm$ 22.0	0.449
PSA (ng/ml)	4.43 $\pm$ 6.95	3.21 $\pm$ 2.14	0.406
Qmax (ml/sec)	9.21 $\pm$ 4.03	8.49 $\pm$ 4.31	0.563
IPSS	19.3 $\pm$ 9.0	16.3 $\pm$ 6.2	0.245
Op time (min)	58.08 $\pm$ 21.45	61.24 $\pm$ 17.20	0.572
Enucleation time (min)	47.0 $\pm$ 16.1	50.8 $\pm$ 11.4	0.335
Morcellation time (min)	8.41 $\pm$ 8.37	7.60 $\pm$ 3.17	0.651
Enucleation weight (g)	22.2 $\pm$ 16.5	25.2 $\pm$ 16.7	0.527
Used energy (KJ)	91.9 $\pm$ 39.0	102.0 $\pm$ 23.7	0.280
Ejaculation preservation rate (%)	34.6	19.2	0.211

References

1. Ronzoni G et al, Br J Urol 1998;81:830-833
2. Lang C et al, Eur Urol Suppl 2009;8:385
3. Tabatabaei S et al, AUA 2011 abstract

Disclosures

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Informed Consent: No