

ANALYSIS OF LEARNING CURVE ABOUT IDENTIFYING THE ANATOMICAL STRUCTURES : INITIAL EXPERIENCE OF HOLMIUM LASER ENUCLEATION OF THE PROSTATE(HOLEP)

Hypothesis / aims of study

Although HoLEP is well established treatment method for benign prostatic hyperplasia, HoLEP is difficult procedure to learn and has steep learning curve. In general, at least 50 cases is needed for overcoming the learning curve. The aim of this study is to determine the effect of proportion of time for identifying anatomical structure during enucleation.

Study design, materials and methods

A total of 64 patients who underwent HoLEP were included in the present study. HoLEP was performed 3 surgeons who was skilful in TUR-P. We divided patient into two group by initial 10 cases(group 1) and later cases(group 2) in each surgeons. We separated operation time into enucleation and morcellation during HoLEP procedure. And enucleation time also divided into actual enucleation time by actual use of Laser or dissecting prostate using scope and time for identifying for anatomical structure by using cystoscopy without any procedure. The proportion of identifying time was compared between initial and later cases.

Results

Mean ages was 70.9 years and Mean BMI was 24.04kg/m². Mean Prostate volume was 66.45 in group 1 and 69.88 in group 2. There were no significant differences in baseline characteristics in preoperative data, total operation time, enucleation/identification time, resection weight, and postoperative uroflowmetry parameter. And there was no difference in all surgeons also. But in group 2, there was less use of Laser, less time consuming for morcellation and identifying anatomical structure.(p=0.012, 0.006,0.018)

Interpretation of results

There was less proportion for consuming for identifying anatomical structure in enucleation time after 10 cases. 10 cases might be optimal number for identifying surgical anatomy for HoLEP.

Concluding message

In initial experience, it seemed to be overcoming one step about identifying surgical anatomy in learning curve after 10 cases.

	Group 1	Group 2	p
OP time	133.9±44.9	137.59±51.2	0.370
Laser energy(J)	118.08±71.50	111.15±40.13	<u>0.012</u>
Enucleation time(min)	109.67±36.28	119.76±47.61	0.184
Actual action time(min)	79.60±27.49	101.74±38.93	0.144
Identifying time(min)	30.07±12.03	18.03±11.51	0.371
Ratio of identification(%)	27.35±6.60	14.40±4.56	<u>0.018</u>
Morcellation time(min)	24.27±15.58	16.06±8.98	<u>0.006</u>
resection rate(g/min)	0.35±0.21	0.34±0.15	0.054
Hemoglobin change	2.82±1.70	2.85±1.37	0.313
postOP UFM			
Qmax	19.24±12.63	20.41±9.81	0.105
Voiding volume(mL)	260.62±90.94	218.00±9.81	0.195
Residual urine(mL)	48.55±37.29	51.59±57.83	0.336
Complication	5	4	0.757
bladder injury	1	0	0.031
transfusion	3	2	0.228
febrile UTI	0	0	
Foley reinsertion	1	2	0.057

References

1. Amy E. Krambeck, Shelly E. Handa and James E. Lingeman. Experience With More Than 1,000 Holmium Laser Prostate Enucleations for Benign Prostatic Hyperplasia. J Urol. 2013 Jan;189(1 Suppl):S141-5
2. Seki N, Mochida O, Kinukawa N, Sagiyama K, Naito S. Holmium laser enucleation for prostatic adenoma: analysis of learning curve over the course of 70 consecutive cases. J Urol. 2003 Nov;170(5):1847-50

Disclosures

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