

# #671 Value of Enucleation-Morcellation Efficacy to Predict the Learning Curve of Holmium Laser Enucleation of the Prostate for Treatment of Benign Prostatic Hyperplasia

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## Introduction

• Holmium laser enucleation of the prostate (HoLEP) is a minimally invasive laser therapy for benign prostatic hyperplasia. However, a steep operative learning curve may be the main drawback to use of HoLEP.

• The enucleation ratio or efficacy were known as one of the parameters for estimating the learning curve. But this parameter is only focused on time of enucleation not considering morcellation, even though operators spend time of enucleation and morcellation simultaneously during HoLEP surgery.

• In this study, we report on the initial experience of a single surgeon during 2 years and evaluate a various method to assess the learning curve of HoLEP.

- Enucleation time :  $47.0 \pm 25.8$  min
- Enucleation ratio :  $0.68 \pm 0.16$  g/mL
- Enucleation efficacy :  $0.97 \pm 0.51$  g/min
- Consumed energy :  $64.2 \pm 18.4$  kJ
- Morcellation time :  $18.3 \pm 5.6$  min
- Morcellation efficacy :  $2.26 \pm 1.02$  g/min
- Enucleation-Morcellation efficacy :  $0.64 \pm 0.27$  g/min
- Perioperative complications were observed in 23 of 130 (17.7%). Of these, 18 were urinary tract infection and 5 (3.8%) was urethral stricture.

## Methods

• A total of 130 consecutive cases performed by the single surgeon were enrolled.

• Intraoperative Measures

- Enucleation time
- Enucleation ratio

(enucleated weight/transitional zone volume)

- Enucleation efficacy

(enucleated weight /enucleation time)

- Consumed energy
- Morcellation time
- Morcellation efficacy

(enucleated weight / morcellation time)

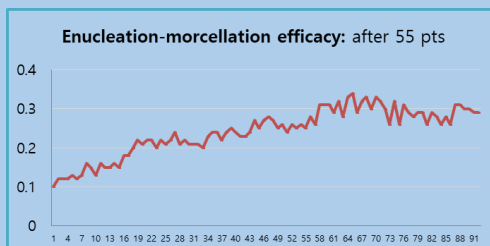
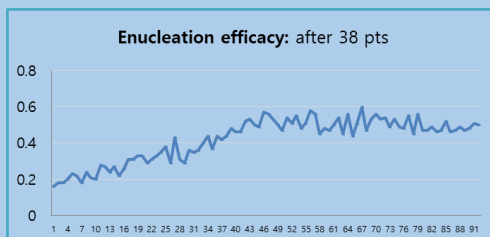
▪ Enucleation-Morcellation efficacy (enucleated weight/enucleation and morcellation time)

• Perioperative morbidity, length of hospital stay and length of urinary drainage

• Functional outcomes (Qmax, postvoid residual volume)

• IPSS and QoL scores at 3 and 6 months

- Learning curve analysis



## Results

- The mean age of 130 patients (68.5, 32-92 years old)
- The mean prostate vol. on ultrasonography (56.5, 34-180 cc)
- The mean total operation time (88.6, 45-260 minutes)
- The mean enucleated weight of prostate (37.7, 18-120 g)

## Conclusions

- Although the learning curve did not interfere with functional results, our results demonstrated that even after 38 cases, surgical skill advances are still needed.
- Of these factors, morcellation time is as important as enucleation time in the whole surgical procedure.
- Enucleation-morcellation efficacy might be considered a better parameter for estimating the operative learning curve of HoLEP rather than enucleation efficacy alone.