Holmium Laser Enucleation of the Prostate (HOLEP)
經尿道鈥激光前列腺剜除術

Introduction

Benign prostatic hyperplasia (BPH) is one of the most common diseases in male patient with urological problem. With aging population, the demand of transurethral endoscopic surgery of prostate increases with time.

Holmium laser enucleation of the prostate (HOLEP)

HOLEP is an effective minimally invasive option for treating moderate-to-severe lower urinary tract symptoms secondary to benign prostatic obstruction in patients with large prostates. HOLEP achieves similar short- and mid-term efficacy to open prostatectomy (OP) but it has a more favorable peri-operative safety profile compared with OP.

HOLEP makes use of the holmium:yttrium-aluminium garnet (Ho:YAG) laser (wavelength 2,140 nm), which is a pulsed solid-state laser that is absorbed by water and water-containing tissues. Tissue coagulation and necrosis are limited to 3-4 mm, which is enough to obtain adequate hemostasis. HOLEP results in benign prostatic obstruction relief and, secondarily, in lower urinary tract symptoms reduction.

Operative procedure

This operation is performed through the urethra with a resectoscope. No incision is made and the operation is carried out under either a general anesthesia or spinal anesthesia. During the operation, continuous irrigation of the prostatic bed and bladder is required in order to provide a good view for enucleation of the prostate. Using normal saline irrigation, it eliminates the risk of transurethral resection syndromes (TUR syndromes). All adenomas of the prostate are enucleated and removed by morcellation. The bleeding is stopped immediately. A catheter will be passed up the urethra into the bladder to drain and irrigate the bladder.

Pre-operative care

Some tests which may include blood and urine tests, chest x-ray and an electrocardiogram (ECG) to make sure everything is alright before the patients go to the Operating Room.

All taken medications need to be checked. Some drugs including blood thinners & aspirin may need to stop before operation.

Possible risk and complication

A. Complication of general anesthesia (Permanent damage or mortality, rare *(<1%)*)

1. Cardiovascular complications: acute myocardial infarction, cerebral accidents, deep vein thrombosis, massive pulmonary embolism.
2. Respiratory complications: atelectasis, pneumonia, asthmatic attack, exacerbation of chronic obstructive airways disease.
3. Allergic reaction and anaphylactic shock.

B. Operation related complications (16%)

1. Injury adjacent organs including perforation of bladder or injury of urethra or rectum (< 1%)
2. Urinary infection (0-22 %)
3. Prostatic bleeding requiring transfusion (0-14 %)
4. Clot retention (0-39 %)
5. Fail to void (0-13 %)
6. Retrograde ejaculation (68%)
7. Urethral stricture (5-19%)
8. Erectile dysfunction (15.7%)
9. Urine incontinence (0.8-10%)
10. Death (<1 %)

Post-operation care

1. In the first day after operation, patient should keep bed rest.
2. The catheter in the bladder for irrigation will be removed 1 to 2 days after the operation if hematuria improves.
3. There will be mild pain or red urine during the first week after operation. The pain and red urine will be controlled with medicine and plenty of water intakes if no contraindication.
4. Frequency, urgency and mild incontinence are common after transurethral surgery.

Follow up

1. Follow-up date will be given upon discharge.
2. Drink 8 glasses of fluid each day if no contraindication.
3. Eat foods high in fiber and roughage to prevent constipation.
4. Walking short distances is OK, but do not do vigorous exercise for at least 6 weeks.
5. Avoid sexual intercourse for at least 4 - 6 weeks.
6. Continue to take all prescribed medications but check with your doctor before taking aspirin or blood thinners.
7. Can usually go back to work 2-6 weeks after your surgery depending on your job.

Remarks

This is general information only and the list of complications is not exhaustive. Other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For further information, please contact your doctor.