Transurethral Bipolar Endoscopic Enucleation of Prostate (BipoLEP)
經尿道雙極電刀前列腺剜除術

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.

Transurethral Bipolar Endoscopic Enucleation of Prostate (BipoLEP)

BipoLEP 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. It mimics the open prostatectomy (OP) that the obstructive adenomas are enucleated using the tip of resectoscope. BipoLEP achieves similar short- and mid-term efficacy to OP but it has a more favorable peri-operative safety profile compared with OP.

BipoLEP uses bipolar endoscopic instrument with normal saline irrigation. It eliminates the risk of transurethral resection syndromes (TUR syndromes). In BipoLEP system, the energy does not travel through the body to reach a skin pad. Bipolar circuitry is completed locally; energy is confined between an active (resection loop) and a passive pole situated on the resectoscope tip (“true” bipolar systems) or the sheath (“quasi” bipolar systems). BipoLEP requires less energy/voltage because there is a smaller amount of interpolated tissue. Energy from the loop is transmitted to the saline solution, resulting in excitation of sodium ions to form plasma; molecules are then easily cleaved under relatively low voltage enabling resection. During coagulation, heat dissipates within vessel walls, creating a sealing coagulum and collagen shrinkage.

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. All adenomas of the prostate are enucleated and removed by resection of the enucleated adenomas or morcellation. The prostate chips will be sucked out at the end of the operation and 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.