Information on Extracorporeal Shock Wave Lithotripsy (ESWL)

Introduction

ESWL is a minimally invasive procedure for fragmenting stones in the urinary system by a special machine. The fragmented stones can then be passed spontaneously along the urine stream.

Indication

Patients suffering from urinary tract stones. Patients should consult their doctors before the treatment.

The Operation / Procedure

1. Patient is asked to lie on the treatment table where the stone is localized under X-ray control. Patient's body is then coupled with the therapy head via a water cushion.
2. Intravenous analgesia and sedative will be given to patient prior to the start of the treatment in order to reduce the discomfort during the treatment.
3. Shock wave is then released and directed to the target stone.
4. The whole procedure takes about 1 hour.

Before the Operation / Procedure

1. Fast 4 hours before the treatment. For procedure under MAC, fast at least 6 hours.
2. Patients with diabetes mellitus, hypertension or arrhythmias should inform their doctors and nursing staff and follow their instructions for medications.
3. Patients should inform their doctors and nursing staff about the drugs they are now taking, especially the anticoagulative drugs and any history of drug allergy.
4. X-ray is used in ESWL for stone localization. There is a potential risk of radiation induced malformation of the fetus for pregnant woman who undergoes ESWL. If patients think they are pregnant or may be pregnant at the time of treatment, they should inform their doctor and nursing staff before the treatment and will be fully responsible for all the consequences.

After the Operation / Procedure

1. To avoid choking, patient should not eat until they are fully recovered from sedation.
2. Due to the influence of drugs, patient should avoid driving, operating machinery or signing any legal document on the day of treatment.
3. Mild haematuria may occur in the first two days after treatment which is normal.
4. Patients are encouraged to increase fluid intake **–** 2-3 litre/day.
5. Some pain may occur when the fragments pass. Oral analgesics may help to relieve the symptoms. It may take 1 day to several weeks for fragments to pass out of the body.
6. Patients should make follow-up visits with their doctors as scheduled to make sure the fragments are cleared.
7. If pain and haematuria persist or other side effects occur such as high fever or severe nausea, patient should consult their doctor. In case of emergency, they can seek advice and treatment at the Hong Kong Baptist Hospital.

Risk and Complication

ESWL is a safe and effective procedure for treating urinary tract stones but the following risks and complications may occur during and after the treatment:

1. Haematuria, dysuria and renal colic.
2. Bruising over the skin may occur.
3. Adverse effect from sedatives and medication.
4. Injury of urinary tract including renal rupture and haematoma (<1% clinically significant).
5. Failed stone fragmentation.
6. Failed stone passage resulting in obstruction (<5%).
7. Residual fragments requiring repeating procedures and ancillary procedures, or even other interventional procedures.
8. Arrhythmia.
9. Urinary tract infection and sepsis.
10. Impair or loss of renal function.
11. Bleeding that requires blood transfusion (<1%), radiological or intervention, and possibility of nephrectomy.
12. Mortality (rare).

It is impossible to mention all the possible complications that may happen after the operation and the above is only a few important complications which may occur. Before agreeing for the operation, patient must acknowledge and accept the fact that no matter how ideal the situation may be, these events may occur and can have serious sequels.

Disclaimer

This leaflet only provides general information pertaining to this operation / procedure. While common risks and complications are described, the list is not exhaustive, and the degree of risk could also vary between patients. Please contact your doctor for detailed information and specific enquiry.

Reference

Smart Patient Website of Hospital Authority: Extracorporeal Shock Wave Lithotripsy (4/2011)