Key Contents

Definition of Urethrography.
Indication of Urethrography.
Procedure of Urethrography.
Complications of Urethrography.

Learning Objectives

To able to explain Urethrography.
To enumerate reasons to perform.
To interpret the Urethrography.
To know the problems of Urethrogram.

Key words: Urethrogram, Strictures urethra, Periunethral abscess.

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Urethrography

It is the contrast medium radiological study of the male urethra. It shows the anatomy of urethra and any pathology if present. Females have small urethra and urethrography is neither helpful nor performed. It is usually termed as retrograde urethrography.

It is considered to be the best initial investigation for urethral and peri-urethral imaging in men.

Only interior of urethra can be seen with this method of examination (x-ray urethrography). Urethral wall and periurethral tissue can not be examined. Very tight strictures which do not allow the passage of dye cannot be assessed adequately with this method of examination. Still it is better investigation for posterior urethral strictures.

**INDICATIONS**
- Stricture urethra
- Pelvic fracture and suspected urethral injury
- Rupture urethra
- Stone urethra
- Foreign body urethra
- Neoplastic lesions of urethra
- Urethral rectal fistula
- Urethral vaginal fistula
- Urethral scrotal fistula

**CONTRAINDICATIONS**
- Urethritis
- Periurethral abscess (collection)

**PREPARATION**
- Complete aseptic measures are adopted. The doctor scrubs up exactly the same way as for any operation. The external genitalia of the patient are cleaned with non irritant antiseptic solution (Savalon or Chlorexidine). Sterile sheets are put on the patient in a way only to keep the external genitalia exposed.
  - 20 mls syringe
  - Blunt tipped catheter (6fr-10fr size)
  - Hypaque or urographin solution
  - Penile clamp

**PROCEDURE**

The examination is conducted in the radiology department.

The syringe is filled with 20 mls of hypaque or urographin solution. The catheter is attached to syringe and air is removed from the catheter by filling it with radio-opaque dye from the syringe.

The catheter is inserted in the anterior urethra for about one cm. The catheter is fixed in the glans either with the penile clamp or it can be kept fixed with two fingers of the doctor.

Gentle pull is applied to keep the complete length of penis and urethra stretched.

The dye is injected (5-10 ml) and x-ray picture is exposed immediately.
A new method has been designed for urethral studies, it is sono-urethrography (S.U). It is much better in detection of anterior urethral strictures than x-ray urethrography. It is The x-ray pictures are exposed in two dimensions (antero-posterior view and lateral view). Not only the whole length of stricture is seen but extent of periurethral fibrosis is also seen with the method of examination. The x-ray films are developed to see the quality of film and if acceptable, the patient is sent home or to the ward.

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The urethrogram shows all parts of male urethra very clearly. It also shows stricture, diverticulae and urethral valves, false passages or any other abnormality if present.

It also shows the exact nature, site and the size of stricture and helps in the assessment and management of the patient. It shows the nature of the rupture urethra whether complete, partial or just bruising, it also shows false passages, tumours or stones or foreign bodies if present in the urethra.

SONO-URETHROGRAPHY

A new method has been designed for urethral studies, it is sono-urethrography (S.U). It is much better in detection of anterior urethral strictures than x-ray urethrography. It is slightly less efficient in the detection of posterior and bulbar urethral strictures. Not only the whole length of stricture is seen but extent of periurethral fibrosis is also seen with this method of examination.

Sono-urethrography is used for an accurate prediction of stricture length. It shows clearly periurethral strictures including the urethral wall, corpus spongiosum, corpus cavernosa, bulb and external urinary sphincter. It is unsatisfactory in detection of membranous urethral stricture.

This investigation is not very helpful for posterior urethral strictures.
REFERENCES


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tures.
