

Self-Retaining Ureteral Stents: Analysis of Factors Responsible for Patients' Discomfort

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The study is a prospective evaluation of self-retaining ureteral stents composed of one of two materials, silicone or Percuflex, from two manufacturers, analyzed for factors responsible for patient discomfort.

ABSTRACT

Purpose: To determine factors affecting patients' discomfort during the period self-retaining ureteral stents are in place.

Patients and Methods: Between April 2001 and May 2003, 58 male and 42 female patients underwent temporary double-pigtail stenting. The indications were endopyelotomy in 39 patients, ureteroscopy in 32, laparoscopic pyeloplasty in 18, and endoureterotomy in 11. The stents were silicone in 56 patients and Percuflex in 44. The median stenting period was 8 weeks (range 4-16 weeks). Patient discomfort was evaluated by a questionnaire conducted by the physician before stent removal. Tested variables were patients' sex, side of the stent, urine culture, stent material, stent length and diameter, and stenting duration. The site of the upper coil (renal pelvis or calix), the site of the lower coil (in the same side or crossing the midline), and the shape of the lower coil (complete circle or not) were also tested. Univariate and multivariate analysis were carried out to determine significant independent variables, with $P < 0.05$ being significant.

Results: Of the total, 59 patients experienced discomfort consisting of dysuria, urgency, urge incontinence, loin pain, suprapubic pain, frequency, nocturia, or gross hematuria or some combination. Significant factors associated with discomfort were a positive urine culture, crossing of the lower end of the stent to the opposite side, caliceal position of the upper coil, and longer stenting duration.

Conclusion: Proper positioning of the coils of the stent, eradication of infection, and shorter stenting duration are advised to decrease patient discomfort during the period of ureteral stenting.

COLOPLAST KEY TAKEAWAYS

- Stent material composition is a key factor that affects patient discomfort.
- The stents compared in the study were made of silicone (Coloplast) and Percuflex (Boston Scientific).
- The study results showed that Coloplast silicone stents resulted in 28.6% less discomfort in patients over Boston Scientific Percuflex stents.
- Symptoms of discomfort led to the limitation of the normal daily activities in 38.0% of patients in the study.

Indications

Drainage of the upper urinary tract over fistulas or ureteral obstacles (e.g. periureteral tumor). Healing of the ureter.

Warnings

Reuse of this single use product may create a potential risk to the user. Reprocessing, cleaning, disinfection, and sterilization may compromise product characteristics which in turn create an additional risk of physical harm to or infection of the patient.

Precautions

The following events have been reported although their occurrence greatly depends on medical conditions of patient: infection, encrustation, obstruction, rupture, migration, bladder irritation symptoms, pain, hematuria, erosion.

Caution: Federal law (USA) restricts this device to sale by or on the order of a physician.