



COMPARISON BETWEEN LATEX AND SILICON FOLEY'S CATHETERS IN PROSPECTIVE CLINICAL TRIAL: FOR CATHETER INDUCED URETHRITIS IN SHORT - TERM CATHETERISATION

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ARTICLE INFO

Article History:

Received 13th August, 2018

Received in revised form 11th September, 2017

Accepted 8th October, 2017

Published online 28th November, 2018

ABSTRACT

A randomised controlled study was carried out at HIMS Varanasi to compare the incidence of urethritis following short –term urethral catheterisation with either latex or silicon foley's catheters.

All patients had undergone open cholecystectomy and were catheterised for 48-72 hours with antibiotic cover and were followed for 3 months post-operatively.

Out of those with latex catheter 20% developed urethritis compared to 2% with silicon catheter group. This difference is statistically significant ($p < 0.01$).

Key words:

Prospective Clinical Trial

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INTRODUCTION

UTI is one of the most common nosocomial infection in hospitals. UTI accounts for over 30-40% of all nosocomial infections and almost 80% of all these are associated with presence of urinary catheter. UTI results in increased morbidity, mortality and increased length of hospital stay. Patients with hospital-acquired UTI secondary to catheter, spent an average 2.4 additional days in hospital so even a marginal decrease in UTI may be cost effective.

Various factors influence the development of urethritis such as inadequate aseptic technique during catheter insertion, composition and size of catheter, duration of catheterisation, type of lubricant used, open circuit system.

Aim of the study was to assess the effect of catheter material composition on incidence of urethritis for short – term catheterisation. A brand of latex and a brand of silicon foley's of same size were chosen for comparison.

PATIENTS AND METHODS

100 patients over 20 years of age, undergoing elective open- cholecystectomy between July 2016 to Dec 2017 were considered for trial. Patients were excluded if had h/o previous catheterisation or surgery or history of UTI. At the time of surgery, patients were randomised into 2 groups. Using odd- even serial no., 16 number latex

catheters all from same brand and no.16 silicon catheters from another brand were used.

Catheters were introduced in OT by OT staff just before elective surgery, by gloved hand using savlon, betadine lotion with all aseptic precautions. Xylocaine 2% jelly was introduced first after cleaning, then catheter introduced with all aseptic precautions. Balloon inflated with 10 ml normal saline, connected to urobag. All patients received broad-spectrum I.V antibiotics during 3 day period of catheterisation.

Follow up consisted of -- close observation during immediate post-operative period for s/s of UTI. Patients were reviewed after 7 days, 6 weeks and 3 months. Any complaints regarding UTI s/s were recorded in question are. If any patient symptomatic, urine examination and culture studies were done and treatment given accordingly.

RESULTS

The incidence of urethritis in patients catheterised with latex foley's catheters was 20% (10/50) while in patients catheterised with silicon catheters 2% (1/50). This difference in incidence of urethritis is statistically significant ($p < 0.01$).

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In all cases, urethritis developed during first 24 hours of catheterisation and continued for 5-7 days. Most patients were slightly symptomatic. In all symptomatic cases, culture was sterile with insignificant growth of organisms and urethritis subsided with empirical antibiotics and alkalisers.

No patient had bacteremia

Patients with silicon catheters reported no obvious discomfort in relation to catheter placement and had significantly lower incidence of urethritis than latex catheter group.

DISCUSSION

Urethral reaction to indwelling foley's catheterisation has been subject of great clinical interest. It was found in various studies that use of silicon catheters was found to have less incidence of urethritis as compared to latex foley's catheters due to - more biocompatibility, causing less cell death, less likely to become encrusted and more resistant to bacterial colonisation. Silicon catheters are already catheters of choice for long term use.

Our study also shows that incidence of urethritis following short- term catheterisation may be significantly reduced by use of silicon foleys catheters.

Biggest drawback of silicon catheter is its greater cost. This precludes its use in routine short-term catheterisation as compared to less costly latex foley's catheter. But if one considers problems of urethritis seen with latex catheters, silicon catheters inspite of greater cost should be better used for short-term catheterisation also.

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