



Service Priorities and Programmes Electronic Presentations

Convention ID: 586

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A New PCN Securing Device to Reduce Patient Readmission due to PCN Twisting, Broken Catheter and Loosen Stitches

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Keywords:

Percutaneous Nephrostomy

patient readmission

PCN problems

Introduction

Percutaneous Nephrostomy (PCN) aims to relieve the obstruction in upper urinary collecting system. However, PCN related problems such as catheter dislodgement and broken tube are common. From January to April in 2014, 30% of patients discharged with PCN were readmitted for PCN dislodgement and twisting in our department. 55% of them required catheter replacement. The development of a new PCN securing device – PCN sheaths aims to reduce unnecessary admission of patients and their suffering from PCN replacement procedures.

Objectives

(1) To prevent PCN catheter twisting, breakage and loosen stitches (2) To reduce patient readmission rate due to PCN related problems

Methodology

Patients discharged with PCN in surgical wards were recruited except those who are having PCN site infection or refuse to participate in the study. After obtaining patients' consent, PCN sheaths were applied before discharged. Health education on PCN care was conducted with information pamphlets attached. Readmission was defined as the admission within 28 days since previous discharge. The number of readmission due to PCN related problems were recorded. SPSS version 20.0 was used to analyze the data.

Result

From February to June 2015, total numbers of 30 patients with mean age of 63 years old were recruited. After applying the PCN sheaths, the readmission rate due to PCN catheter mechanical problems (dislodgement, twisting, broken catheter and loosen of anchoring stitches) was significantly reduced by 55.6% ($p=0.04$). No patient was readmitted due to PCN twisting, broken catheter and loosen stitches. Moreover, the PCN sheaths did not increase the PCN infection rate. PCN sheaths also prevented catheter dislodgement although the result was not statistically significant. Meanwhile, other PCN related problems such as catheter blockage, urinary tract infection and hematuria were not statistically improved by the PCN sheaths ($p=0.387$).

Further studies can be done to explore the preventive measures on this issue. To conclude, the PCN sheath was effective in preventing PCN twisting. It protected the catheter from breakage and loosening of anchoring stitches. The patients' readmission rate was significantly reduced due to the securing device. Hence, the medical cost and patient suffering due to unnecessary PCN replacement were minimized.