Should the bladder be catheterised before or after total knee replacement?

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ABSTRACT

In Prince of Wales Hospital, a urethral catheter is inserted just before total knee replacement. In Alice Ho Miu Ling Nethersole Hospital, a urethral catheter is inserted after the operation only if necessary. This study compared the incidences of postoperative urinary tract infection and urinary retention between the two different protocols and identified risk factors for postoperative urinary tract infection and urinary retention. This is a retrospective study of 286 patients with primary total knee replacements over a 2-year period. One hundred thirty-four patients were from Prince of Wales Hospital and 152 were from Alice Ho Miu Ling Nethersole Hospital. The patients’ parameters were analysed statistically. These included diagnosis, significant medical history, anaesthesia, perioperative analgesia, bladder management, urinary tract infection, and wound infection. The incidences of urinary tract infection were 11.2% at Prince of Wales Hospital and 8.6% at Alice Ho Miu Ling Nethersole Hospital (p=0.45). They were not related to the duration of the first indwelling urethral catheterisation (p=0.16) nor to the number of postoperative catheterisations (p=0.13). Postoperative urinary retention was 46% in Alice Ho Miu Ling Nethersole Hospital and none in Prince of Wales Hospital (p=0.05). Retention of urine was related to the postoperative analgesic methods (p=0.05), but not to the length of their use (p=0.5). The risks of urinary retention associated with epidural analgesia (49.4%) and patient-controlled analgesia (38.7%) were similar (p=0.19). The acute deep wound infection rates were comparable between the two hospitals (0.75% and 0.66%, p=0.93). Postoperative analgesia and benign prostatic hypertrophy were significant factors associated with urinary retention. Intraoperative urethral catheterisation significantly decreased the chance of postoperative urinary retention and, hence, alleviated discomfort. However, it did not alter the chance of postoperative urinary tract infection.

Key Words: Catheterisation; Replacement, knee; Urinary retention; Urinary tract infection