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Can the kidney biopsy be performed as a day care procedure?

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OBJECTIVES

Percutaneous renal biopsy in children is a safe procedure. It is used for definitive diagnosis, prognosis and evaluation of the response to the therapy. The introduction of the kidney localization by real time ultrasounds made the procedure more effective and safe. The use of new automated techniques with small disposable needles in a well sedated child and experienced operator minimizes the complication rate. With day care surgery and other services coming in vogue it is felt that this procedure too can be carried out on a day care basis. There is no major prospective study from this country determining the ideal duration of observation required to ensure that children likely to develop major complications are detected within the observation period while most others are permitted to go home. This study aims at determining the minimum duration of observation required to ensure that children who are likely to bleed post procedure, are detected prior to discharge.

METHODOLOGY

All consecutive cases requiring kidney biopsy between June 2006 to May 2008 were included in the study. The kidney was located with the help of USG prior to biopsy (not under real time USG) and the child underwent biopsy using a biopsy gun with a disposable needle (16 or 18G) under sedation using ketamine and midazolam. End point of the study was 24 hours or earlier in case of gross hematuria or hypotension requiring intervention. The duration at which any complication occurred was noted.

RESULTS

Most common indication for kidney biopsy in children is nephritic syndrome with atypical features. Most common serious complication after kidney biopsy is macroscopic hematuria. In present study, rate of hematuria was 33.3% using a biopsy gun. When biopsy yield were compared, there was no significant difference statistically in the yield of glomeruli between the use of a 16G to 18G disposable biopsy needle. In present study all complications manifested within 6 hours of the procedure when it was performed using the biopsy gun. Most of the complications after kidney biopsy resolve by 12 hours and are self-limiting hence can be managed conservatively.

RECOMMENDATIONS

All patients undergoing kidney biopsies should be kept under observation for minimum 12 hours. A kidney biopsy can be carried out as a daycare procedure in most children.