

Bladder Rupture Following Voiding Cystourethrography

Urinoma is defined as an encapsulated collection of extravasated urine(1). In urinary ascites the capsule is the peritoneum. It usually occurs following renal trauma. One of the iatrogenic causes, is urinary system trauma during voiding cystourethrography (VCUG) (2).

A 4½-month-old boy was referred to our clinic with the complaint of progressive abdominal distention for one week before admission. Additionally he developed oliguria and was anuric for two days. During ultrasonographic examination of the urinary system due to growth retardation and hypocalcemia, left renal grade 1 pelvicalyceal ectasy was detected. Twenty days before his admission VCUG was done to reveal any underlying disorder. In the following period a significant increase was observed in the abdominal circumference.

On admission the boy was anuric with severe abdominal distention. He was minimally dyspneic with no respiratory sounds at the lower thoracic segments on auscultation. Cardiovascular examination was normal with a normal blood pressure value for his age. No peripheral edema was observed. Urinary catheterization revealed no urine output during the following hours.

The ascites fluid was cloudy yellow in appearance due to fibrin particles and a high polymorphonuclear leucocyte count (>1000/mm³). Its density was 1020 and its biochemical profile was as follows: Urea: 110.7 mg/dL,

Creatinine: 3.3 mg/dL, Na: 125.5 mEq/L, it was noted that the urea and the creatinine values were much higher than the blood values (Urea: 82.3 mg/dL, Creatinine: 1.68 mg/dL).

The patient had disproportionately low blood urea and creatinine levels for anuria of two days duration but had much higher urea and creatinine values in the ascites fluid compared to serum values. We suspected urine leakage into the peritoneal cavity. On computerized tomography (CT) of the abdomen a defect in the anterior wall of the urinary bladder was revealed. The contrast material given into the bladder was observed leaking into the peritoneal cavity under X-ray proving a rupture in the bladder wall. Re-evaluating the past clinical history we found out that the VCUG performed 20 days before admission was the only possible cause of this rupture.

As soon as the rupture was diagnosed the bladder wall was mended.

Complications in VCUG are infrequent. Most common ones are traumas to urethra and urinary bladder. Urinary bladder rupture, allergic reactions to the contrast material and knotting of the catheter inside the bladder may also be seen(2-5). As long as most of the bladder is retroperitoneally placed, urine generally leaks retroperitoneally following urinary bladder ruptures.

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Protecting Children Participating in Research

Since India is expected to develop into an international hub for clinical research, the editorial on ethics of research in children has not come a day sooner(1). The Ethics committees (EC) and Institutional Review Boards (IRB) have the onerous responsibility to ensure that children, who constitute a vulnerable population, are not used as a commodity in clinical research in absence of explicit national guidelines for pediatric research and in the milieu of abject poverty.

It is the responsibility of EC/IRB to take care that the participation is without coercion or inducement. The American Academy of Pediatrics expects that, assent is obtained from children over the age of 7 years in pediatric practice(2). There have been arguments favoring a much higher cut-off age of 14 years for pediatric research trials(3). Several guidelines state that assent should be obtained where children have sufficient understanding and intelligence to understand what is proposed(4) and that this ability could be determined taking into consideration the

child's age, maturity and psychological state. Most parents act in the best interests of their children on most occasions. However, given the magnitude of poverty prevalent in the country, it is possible that amount provided as compensation for participation could act as inducement and influence parental judgment regarding enrolling the child. EC/IRB should formulate local guidelines concerning these issues, share their expertise and collaborate with each other and form a consortium so that national guidelines concerning pediatric research could be evolved.

Obtaining assent from the child and permission from parents is not equivalent to obtaining consent from an adult participant. Hence, EC/IRB have additional responsibilities while dealing with these studies by probing the potential risks and benefits of a trial in children and adolescents. EC/IRB could seek assistance from persons with experience of dealing with sick children so as to develop specific expertise in evaluating pediatric trials. They should also monitor the process of obtaining assent to ensure that developmentally appropriate information is being provided to children before requesting their assent, that their dissent is respected and that