Local Allergic Reaction to Contrast Material during Retrograde Urethrography

ABSTRACT
Adverse reactions associated with parenteral use of contrast agents are widely recognized, but reactions to contrast agents following retrograde urethrography are much less common. A rare case of local allergic reaction to ionic contrast during retrograde urethrography in a 25-year-old male patient, who was treated conservatively, has been described.

Keywords: Ionic contrast medium, Local allergic reaction, Retrograde urethrography.

How to cite this article: Raut N, Singhania P, Shringarpure S, Joshi N. Local Allergic Reaction to Contrast Material during Retrograde Urethrography. MGM J Med Sci 2015;2(3):165-166.

INTRODUCTION
Local allergic reactions to contrast media used during retrograde urethrography or micturating cystourethrography procedure are rare, although absorption through intact bladder mucosa has been documented. A rare case of a 25-year-old male patient who developed a local allergic reaction to ionic contrast medium (meglumine diatrizoate) during retrograde urethrography and was treated conservatively has been described.

CASE REPORT
A 25-year-old male patient presented to the outpatient department with difficulty in micturition and poor flow of urine. On examination, meatal stenosis was diagnosed. Urine examination was normal. Ultrasound of abdomen and pelvis was normal. The patient was subjected to undergo a retrograde urethrography to rule out any associated urethral strictures. Retrograde urethrography was performed under strict aseptic precautions using ionic contrast medium (diatrizoate meglumine 18%).

After injecting the contrast agent, the patient developed itching with flaccid bullae on the glans around the meatus. The procedure was immediately abandoned. The patient was given hydrocortisone and chlorpheniramine injections immediately. The bullae ruptured immediately forming an ulcer which extended on the ventral aspect of the glans with periameatal edema and erythema (Fig. 1). Meatal dilatation was done. The patient was put on systemic antibiotics with local steroid application. The ulcer responded to this conservative treatment with complete healing without complications in 2 weeks.

DISCUSSION
The incidence of any reaction to ionic radiocontrast media is estimated to be between 0.6 and 12.66%.1 For nonionic materials, the risk for any reaction ranges from 0.3 to 3%.2 The risk for a severe hypersensitivity reaction is 0.16% with ionic contrast materials and 0.03% with nonionic contrast materials. Risk factors for contrast media reactions include (but are not limited to)—previous reactions to either ionic or nonionic contrast media (six fold increase), asthma (5–10 fold increase), history of multiple allergies (1.5–3 fold increase), female gender (29), drug allergy (30), and patients taking interleukin-2.3

Adverse reactions to contrast media are divided into two broad categories: chemotoxic reactions and hypersensitivity reactions. Chemotoxic reactions are

Fig. 1: The ulcer on the ventral aspect of the glans with periameatal edema and erythema
related to the chemical properties of radio-contrast agents, whereas hypersensitivity reactions are idiosyncratic and can be further subdivided into immediate and delayed.\textsuperscript{4,5} The exact mechanisms of most adverse reactions to contrast material are unknown and are under active investigation. Most of them seem to employ direct mast cell and basophil activation and involve the release of a number of vasoactive mediators. The pathophysiology of immediate hypersensitivity reactions is believed to be nonimmunoglobulin E (IgE)-mediated in the majority of cases, although a small percentage of these reactions may involve IgE.

Wood et al\textsuperscript{6} described similar local allergic reaction to ionic contrast medium during voiding cystourethrography. Two children were described to develop an apparent cutaneous contact reaction to contrast material in urine. Both the children had undergone uneventful voiding cystourethrography with diatrizoate meglumine injection 18%, followed by intravenous urography with diatrizoate meglumine injection 60%. Approximately 1 hour after urography, cutaneous bullae and surrounding erythema of the buttocks (one case) or foreskin (one case) were noted. This reaction resembled a superficial chemical burn. Weese et al\textsuperscript{7} described two cases of anaphylactoid reaction during voiding cystourethrography and retrograde pyelography.

Bettany et al\textsuperscript{8} also reported a case of systemic absorption of contrast material through the bladder mucosa, causing adverse effects, during micturating cystourethrography.

CONCLUSION
The case illustrates that significant reactions can occur during retrograde urethrography or micturating cystourethrogram and appropriate resuscitation facilities must be available.

REFERENCES