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## Urethral prolapse after durasphere injection

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**Abstract** Urethral prolapse is an uncommon condition among adult patients. We report a case of adult female patient with urethral prolapse after Durasphere injection. The patient was successfully treated with excision of the prolapsed urethra and Durasphere mass, and fibrin glue injection to support the remaining part of urethra.

**Keywords** Urethral · Prolapse · Durasphere

### Introduction

Urethral prolapse is an eversion of the urethral mucosa through the external urethral meatus. It is rarely reported in literature especially among adults.

We report a case of urethral prolapse in adult female patient after injection of Durasphere bulking agent for treatment of stress urinary incontinence.

### Case report

Eighty-three-year old white female patient with history of urinary incontinence and Durasphere injection presented complaining of recurrent stress urinary incontinence, urgency, pain, hematuria and vaginal fullness. The bulking agent was injected outside of our institution and the patient reported that she received five injections of Durasphere. No history of cough and, she gave a surgical history of hysterectomy, cystocele repair and radical mastectomy.

Abdominal examination showed a healed abdominal scar and no other significant clinical findings. Pelvic examination revealed a protruding urethral mass measured  $1.5 \times 1.5$  cm with friable mucosal surface. When a Foley catheter was placed the mass circumferentially surrounded the catheter (Fig. 1). Cystoscopy was done to exclude other pathologies.

Local treatment with estrogen and anti-inflammatory agent were tried without improvement. Circumferential resection of the prolapsed part of the urethra was performed (Fig. 2) and 2 ml of fibrin glue (Tisseel, Baxter Health Corp., Irvine, CA) was injected between the mucosa and submucosal tissue at 3 and 9 O'clock. The urethral mucosal edges were approximated with 3-O Vicryl sutures to the vaginal skin. Indwelling urethral Foley catheter was left for one week. Histopathological examination showed transitional epithelium with submucosal inflammatory changes and Durasphere particles.

At 3 months of follow up, the patient was satisfied with the outcome as almost dry, and no pain. Three months later, urethral stricture developed and treated with dilatation. At 1 year of follow up the patient was doing well.

### Discussion

Urethral prolapse is an uncommon condition that occurs most often in two age groups, premenarchal children aged 4–9 years, and a second group of postmenopausal elderly women. Children are mostly black and the majority of postmenopausal women are white [1]. The etiology of this condition is not fully understood. Several theories have been suggested. Estrogen deficiency may have a role in the laxity of periurethral fascia, mucosal redundancy, and vaginal atrophy [2]. The other hypotheses include fascial defects, poor bladder support, urethral mal-position, submucosal weakness or deficiency in elastic tissues [3]. Our case had several predisposing factors for urethral prolapse.

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**Fig. 1** Prolapsed urethra surrounding a Foley catheter

She is elderly, white, with history of bladder support procedure in addition to the injection of the bulking agent, which may disrupt the support between the urethral mucosa and the underlying submucosal tissue. To our knowledge only one other case of urethral prolapse has been reported after collagen injection, which may indicate that bulking agent is a predisposing factor for urethral prolapse [4].

Management of urethral prolapse is controversial, varying from conservative measures such as local applications of estrogen creams to various surgical techniques. Treatment with topical estrogen has been successful in children, but adult women usually require resection. Many surgical techniques have been described including simple excision using scalpel or cutting diathermy, cauterization, fulguration, and cryotherapy to destroy the prolapsed tissue [5]. Tying a ligature around the prolapsed urethra over the indwelling Foley catheter, which is another surgical method of treatment, will slough off the excess mucosa after few days. Our case was successfully treated with the excision of the prolapsed part of urethra, and we injected fibrin glue in an attempt to support the urethral mucosa to the underlying tissue after its disruption by the Durasphere implant.

The use of fibrin sealant has increased in numerous surgical fields including urology. Fibrin glue has not been used in urethral prolapse treatment, however it is



**Fig. 2** Excised prolapsed part of the urethra with some part of the Durasphere implant

reported in the repair of vesicovaginal fistula and other urological procedures [6]. The fibrin glue consists of fibrinogen when mixed with thrombin a fibrin sealant is produced, and the reaction is enhanced by calcium chloride. Fibrin sealant may promote angiogenesis and local tissue growth, and at the same time it does not result in significant inflammation and foreign body reaction [6]. The procedure resulted in satisfactory outcome and resolution of the patient's symptoms.

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