

Teflonoma presenting as a cystourethrocele

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Summary

We report an unusual case of teflonoma which appeared three years after teflon injection and presented as cystourethrocele. The pathology confirmed the presence of a giant cell reaction compatible with a teflonoma.

Key words: Stress incontinence; Teflon; Cystourethrocele; Granuloma.

Introduction

Female genuine stress urinary incontinence (SUI) results from either intrinsic urethral sphincter weakness and/or bladder neck hypermobility. Surgical treatment aims at elevating the bladder neck into the abdominal zone of pressure and increasing urethral closure pressure during stress. Urethral pressure augmentation has been suggested as an option, provided that the patient has a non-mobile bladder neck and no element of urge incontinence [1].

Pseudotumoral granulomatous foreign body reaction is a rare complication of periurethral polytetrafluoroethylene (teflon) paste injection for genuine SUI. We report an unusual case of teflonoma which appeared three years after teflon injection and presented as cystourethrocele. The pathology confirmed the presence of a giant cell reaction compatible with a teflonoma.

Case Report

Z.H., a 45-year-old multigravida, was admitted to the hospital for repair of cystourethrocele and rectocele. She had undergone a total abdominal hysterectomy ten years before for severe menorrhagia secondary to adenomyosis. This was followed one year later by the Marshall Marchetti Krantz procedure for genuine SUI. Six months after her symptoms of SUI recurred and the Stamey procedure did not improve her symptoms. A cystometrogram revealed an element of both urge and SUI. Imipramine and estrogen replacement were started but to no avail. After a failed first submucosal urethral teflon injection, continence was achieved for six months only following the second injection. Three years later the patient presented with a bulge in the vagina. Pelvic exam revealed severe tender cystourethrocele and rectocele. Intraoperatively, while dissecting the vaginal mucosa away from the vesicovaginal fascia, 3 periurethral cysts each measuring around 4 x 2 cm were excised (Figure 1). Pathology revealed a giant cell reaction with chronic nonspecific inflammation. At the 6-month postoperative visit, no cysto-rectocele was identified but SUI persisted. She declined further therapy and was lost to follow-up.

Discussion

Murlless in 1938 was the first to introduce the concept of supporting the urethra by means of an injectable compound [1, 2]. Teflon injections have been used to treat a variety of anatomical disorders caused by the failure of mucosal surfaces to approximate. Suburethral and suburethral teflon injections have been used effectively in relieving the symptoms of vesicoureteral reflux and in treating urinary incontinence after radical prostatectomy [3]. Teflon is an inert substance that acts as a bulking agent to increase urethral resistance to urine flow. Politano and Schulman reported a cure rate ranging from 21-75% [3, 4]. However, teflon use was associated with several problems: difficulty in administration and high pressure for injection. Malizia *et al.* reported that teflon particles can embolize from the injection site to the lungs, liver, spleen and brain [5]. Complications are unusual and include transient urinary retention, urethritis and urinary tract infection [6]. Rare cases of periurethral cysts and granuloma formations are also described [6].

We report on a patient with a history of periurethral teflon injection for SUI who presented with severe cystourethrocele three years after. Pathological examination revealed that the material responsible for the cystourethrocele was largely composed of a foreign body giant cell response to a teflon implant, commonly referred to as

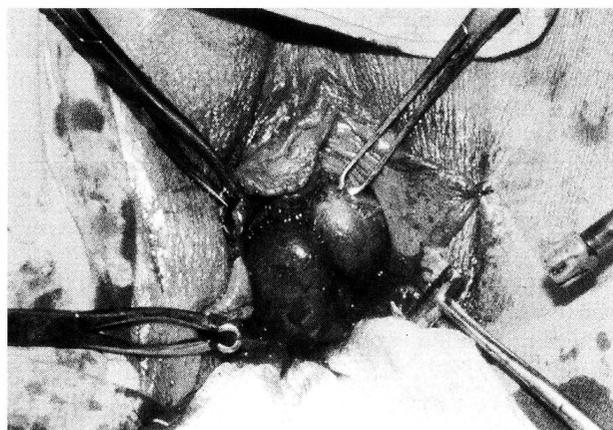


Figure 1. — Periurethral cysts.

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polytetrafluoroethylene granuloma or a teflonoma. Wenig and Benjamin described teflonoma of the larynx and neck as a complication of injection for correction of vocal cord paralysis [7, 8]. Wassef reported on a delayed teflonoma of the neck simulating a thyroid neoplasm [9].

Aragona *et al.* reported on foreign body granulomatous reaction with secondary adenopathy induced by teflon injection for the treatment of vesicourethral reflux in children [10]. Kilholma and Makinen described paraurethral abscess, urethral diverticulum and urethral wall prolapse as a complication of teflon injection [11]. McKinney *et al.* presented a case of bladder outlet obstruction that occurred nine years after multiple periurethral injections [6]. In fact, it is very well known that the volume and the site of the injection are critical variables in the methodology [11]. That is why many surgeons attempt multiple injections. Whether the injection volume contributed to the complication in our case is unlikely since complications were reported even with small volumes. Puri and O'Donnell stressed the importance of the site of injection noting that teflon paste remained in position and elicited a minimal foreign body response when placed in the submucosa. However, the inflammatory response was diffuse when injected into the musculature or serosal fat [12].

Concerning the chronology of events, Dedo and Carlsoo noted that the peak foreign body response to teflon injection was within six months, however it was progressive up to 3.5 years [13]. Our case is unique in its delayed presentation with multiple periurethral cysts mimicking a cystourethrocele. Tender cystourethrocele following teflon injection should raise the possibility of teflonoma.

References

- [1] Murless B. C.: "The injection treatment of stress incontinence". *J. Obstet. Gynecol. Br. Eur.*, 1938, 45, 67.
- [2] Eckford S., Abrams P.: "Paraurethral collagen implantation for female stress urinary incontinence". *Br. J. Urol.*, 1991, 68, 586.
- [3] Politano U.: "Periurethral polytetrafluoroethylene injection for urinary incontinence". *J. Urol.*, 1982, 127, 439.
- [4] Schulman C., Simon J., Wespes E., Germeau F.: "Endoscopic incontinence in women". *Br. Med. J. Clin. Res. Ed.*, 1984, 288, 192.
- [5] Malizia A., Reiman H., Meyers R., Sande J. R., Barham S. S., Benson R. C. Jr. *et al.*: "Migration and granulomatous reaction after periurethral injection of polytetrahydrofluoroethylene (Teflon)". *JAMA*, 1984, 251, 3277.
- [6] McKinney C., Gaffey M., Gillenwater J.: "Bladder outlet obstruction after multiple periurethral polytetrafluoroethylene injections". *J. Urol.*, 1995, 153, 149.
- [7] Wenig B., Helfner D., Johnson F.: "Teflonoma of the larynx and the neck". *Hum. Path.*, 1990, 21, 617.
- [8] Benjamin B., Robb P., Clifford A., Eckstein R.: "Giant teflon granuloma of the larynx". *Head Neck*, 1991, 13, 453.
- [9] Wassef M., Achouche J., Guichara J. P., Tran Ba Huy P.: "A delayed teflonoma of the Neck simulating a thyroid neoplasm". *J. Otorhinolaryngeal. Relation Spec.*, 1994, 56, 352.
- [10] Aragona F., D'Urso L., Scremin E., Salmasso R., Glazel G. P.: "Polytetrafluoroethylene giant granuloma and adenopathy: long term complications following suburethral polytetrafluoroethylene injection for the treatment of vesicoureteral reflux in children". *J. Urol.*, 1997, 158, 1539.
- [11] Kilholma P., Makinen J.: "Disappointing effect of endoscopic teflon injection for female stress incontinence". *Eur. Urol.*, 1991, 20, 197.
- [12] Puri P., O'Donnell B.: "Correction of experimentally induced vesicoureteric reflux in the piglet by injection of Teflon". *Br. Med. J.*, 1984, 289, 5.
- [13] Dedo H., Carlsoo B.: "Histologic evaluation of teflon granuloma of human vocal cords". *Acta Otolaryngol.*, 1982, 93, 475.

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