

Pelvic Haematoma after Tension-free Vaginal Tape Operation

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The tension-free vaginal tape operation is widely accepted around the world for the surgical treatment of female stress urinary incontinence. Although it is regarded as a minimally invasive procedure, complications are not uncommon. We report a complication of pelvic haematoma detected 9 days after a tension-free vaginal tape operation performed for urodynamic stress incontinence in a 62-year-old woman.

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Introduction

The tension-free vaginal tape (TVT) operation is described by Ulmsten et al¹ in 1996 for the surgical treatment of female stress urinary incontinence. The TVT device consists of a polypropylene tape attached to curved needles at both ends. The needles are passed from a vaginal incision beneath the mid-urethra through the retropubic space to the skin incisions at the superior border of the pubic bone. Since its introduction, TVT has been increasingly performed over the world as well as in Hong Kong. Although TVT is widely accepted as a minimally invasive surgery, complications are not uncommon. As TVT is often performed as an ambulatory procedure, it is particularly important to monitor the patients carefully after the operation, and to diagnose and manage the complications promptly. Here we report a complication of pelvic haematoma that occurred after a TVT procedure.

Case Report

A 62-year-old para 3 postmenopausal woman complained of stress and urge urinary incontinence for 10 years. She had no major medical illness. She had been using diapers all the time for protection. The urinary symptoms had caused her significant social embarrassment and as a result she had limited social activities. She had tried pelvic floor muscle training with minimal improvement in urinary symptoms. Apart from the demonstration of stress urinary incontinence, physical

examination was normal. Subtracted dual-channel cystometry confirmed the diagnoses of urodynamic stress incontinence and sensory urgency. She decided to undergo the TVT operation for the stress urinary incontinence. The TVT operation was performed as described by Ulmsten et al¹ except that it was performed under spinal anaesthesia. The operation was smooth. It lasted 25 minutes. The estimated blood loss was 50 mL. Voiding was satisfactory after the operation and she was discharged on the following day.

Nine days after the operation, she was readmitted because of right lower abdominal pain, stress urinary incontinence, frequency and urgency symptoms. The vital signs were stable. She was afebrile. There was a drop in haemoglobin level of 3 g/dL compared to the preoperative level. An 8 cm firm right adnexal mass was detected on bimanual pelvic examination. Transabdominal ultrasound scan showed the presence of an 8.2x7.9x6.2 cm hypoechoic lesion in the right pelvis with thin septations and echogenic debris inside, displacing the urinary bladder to the left. Magnetic resonance imaging showed a similar sized cystic mass at the right pelvic sidewall extending from the level of the bladder dome to the bladder neck, displacing the

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urinary bladder medially. The patient was diagnosed with pelvic haematoma. The haematoma was managed conservatively with monitoring of her symptoms and serial ultrasound scanning. The haematoma was reduced to 4 cm in size 3 months after the operation. Complete resolution of the urinary symptoms and the haematoma occurred at 7 months postoperatively. Urodynamics study performed 1 year after the operation was normal.

Discussion

The more commonly described complications after TVT operations include bladder perforation, voiding dysfunction and detrusor overactivity. Bleeding complications have also been reported. Retropubic and pelvic haematoma occurred after 0.4-3.3% of TVT procedures²⁻⁵. The likely source of bleeding is from the large perivesical venous plexus in the space of Retzius², which is traumatised during the passage of the TVT needles through the retropubic space. Less commonly, injuries to the inferior epigastric, obturator, external iliac and femoral vessels have also been reported³. Haemorrhage from these major vessels can be torrential and may lead to potentially life-threatening sequelae. In patients presenting with significant haemorrhage or haemodynamic instability after the TVT procedure, laparotomies are often considered for clot evacuation and haemostasis. Alternatively, the use of arterial embolisation has also been suggested as a means of controlling the haemorrhage where such radiological expertise and facilities are readily available⁶.

In our patient, it was likely that bleeding from the perivesical plexus had resulted in the formation of the pelvic haematoma. The bleeding was probably venous in origin and blood had been slowly accumulating without

causing significant haemodynamic instability. When the haematoma was subsequently diagnosed on the 9th day after the operation, it was likely to be at least partially organised. A conservative approach of management was thus decided. Alternatively, surgical evacuation or aspiration of the haematoma under ultrasound guidance could be considered if the haematoma was diagnosed earlier. This would probably result in a more rapid resolution of the condition.

To minimise the risk of bleeding morbidity during the TVT procedure, it is important that the TVT needle should stay in close contact with the back of the pubic bone and close to the midline during its passage. Control of the TVT trocar must be maintained all the time with the surgeon's hand to avoid twisting the needle during the insertion causing deviation laterally. The surgeon should be familiar with the pelvic anatomy and has adequate training in the operative procedure.

It is important to remember that although the TVT operation is regarded as a form of minimally invasive anti-incontinence surgery, complications including bleeding morbidity may occur. Consequently it is prudent that patients are carefully monitored after the operations and adequately assessed before their discharge from the hospital. The haemodynamic status of the patients should be monitored closely in the immediate postoperative period. The amount of bleeding from the vaginal and/or suprapubic wounds should be noted. The patients should be assessed to look for any newly developed mass lesion from the pelvis after the operation that would arouse the suspicion of haematoma formation. Monitoring of haemoglobin level should be considered when bleeding morbidity is suspected.

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