

## Case Report

### Neurogenic bladder in a young female

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This is an uncommon case of 25 year old female, who presented with lower abdominal pain and lower urinary tract symptoms along with suprapubic distension. Initially was thought to be a pelvic malignancy, but through ultrasound

examination was found to be due to neurogenic bladder. (Rawal Med J 201;43:369-370).

**Key words:** Neurogenic bladder, female, pelvic neoplasms.

#### INTRODUCTION

Cases of neurogenic bladder are rarely seen in primary care clinics. Common causes include congenital problems such as spina bifida, sacral agenesis and cerebral palsy; various medical disorders such as stroke, Parkinson's disease, spinal cord tumors, multiple sclerosis and trauma.<sup>1</sup> We report the uncommon diagnosis of neurogenic bladder in a fertile female patient.

#### CASE PRESENTATION

Miss Y, a 25 years old single woman, presented with lower abdominal pain, urinary frequency, dysuria and urgency for 2 days. The symptoms started after she took a bus from her hometown back to her current home, which took 10 long hours due to frequent jams and a couple of accidents along the way. Being someone who usually avoid public toilets, she took less fluids during her journey and only voided after she reached home despite having persistent urge to void. There was no fever, nausea or vomiting. The abdominal pain started suddenly and was localised to the suprapubic region. There were no relieving or aggravating factors. The severity of pain ranges from 4-5/10 and didn't disturb her sleep.

On examination, blood pressure was 116/78 mmHg, pulse rate 78 beats per minutes, temperature 37°C and respiratory rate of 16 breaths per minute. Her hydration and perfusion status were good. An abdominal swelling representing a gravid uterus of 12 weeks was noted which was firm but non-tender. Renal punch was negative. No lymphadenopathy

was noted. Back and spine examination and anal tone were normal. The finding of abdominal swelling was totally unexpected. On further questioning, she revealed that this is the first time she is having this swelling and she haven't noticed it till it was brought to her attention today.

She denied being sexually active. She however consented to a urinary pregnancy test (UPT) and urine full and microscopic examination (UFEME). Her UPT test was negative. UFEME revealed leucocytes and was nitrite positive. An urgent abdominal and pelvis ultrasound was requested.

A provisional diagnosis of urinary tract infection with possible underlying pelvic malignancy was made. She was treated with oral cephalexin and advice to drink plenty of fluid. She returned the next day and her ultrasound showed a distended bladder with bladder wall thickening measuring 8mm. She reported that her urinary tract symptoms have improved markedly and the swelling has reduced in size today.

She was referred to the urology department in which urodynamic assessment was done and confirmed the findings of neurogenic bladder. She is currently on tolterodine, an anticholinergic drug that slows down the pressure increase in the bladder and reduces the urge to urinate, thereby preventing incontinence.<sup>2</sup> She has since been on regular follow-up every six months and remains asymptomatic.

#### DISCUSSION

The findings of an enlarged abdomen startled us and

we thought it to be a pelvic malignancy such as ovarian, cervical or uterine cancer. Other differential diagnosis, albeit uncommon, include bladder outlet obstruction, myelodysplasia and posterior urethral valves.<sup>3</sup> All these can be ruled out with simple blood picture and imaging of the abdomen and pelvis. The mean age for a neurogenic bladder is said to be older at around 63 years old.<sup>4</sup> This presentation makes up for around 16 primary care visits per year. Hence, this highlights the uniqueness of this case.

This case was initially provisionally diagnosed via an ultrasound, which showed thick bladder wall. This method, although convenient is still controversial as the gold standard for diagnosis of neurogenic bladder is urodynamic studies.<sup>5</sup> It can show different findings depending on the underlying pathology of either detrusor over activity or underactivity. In the former group, there will be early less sensation, reduced bladder storing capacity, high voiding pressure with detrusor sphincter dyssynergia (DSD). In the latter group, there will findings of had delayed first sensation, increase in bladder storing capacity and reduced bladder voiding pressure.<sup>6</sup>

Treatment of neurogenic bladder depends on the type of incontinence that the patient has including surgery in stress incontinence, medications (namely anticholinergics such as tolterodine and oxybutynin) and surgery in mixed incontinence, behavioural modification therapy and medication in urge incontinence, intermittent urinary catheterization for overflow incontinence besides looking out and treating predisposing factors like constipation and urinary tract infection.<sup>7</sup>

The prognosis is good with adherence to medical advice and avoidance of factors predisposing to urinary tract infections and constipation.<sup>8</sup> This patient's follow up is being co-managed with both primary care and urology, where the aim is to preserve urinary tract and renal functions and avoid complications such as calculi, infections and morphological damage. Most important is to

preserve patient's continence and patient's quality of life.<sup>8</sup> In summary, this was an unusual case of a neurological cause of incontinence in a young female patient. Such a scenerio should be kept in mind by the busy clinician.

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Collection and assembly of data: Navin, Aneesa

Analysis and interpretation of the data: Navin, Aneesa

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#### REFERENCES

1. Cleveland Clinic. Neurogenic bladder [cited 2017 Dec 1]. Available from: [my.clevelandclinic.org/health/articles/neurogenic-bladder](http://my.clevelandclinic.org/health/articles/neurogenic-bladder)
2. Ogburu O, Marks JW. Tolterodine, Detrol, Detrol LA: Drug Facts, Side Effects [cited 2017 Dec 1]. Available from: <http://www.medicinenet.com/tolterodine/article.htm>.
3. Radiopedia.org. Neurogenic bladder [cited 2017 Dec 1]. Available from: <https://radiopaedia.org/articles/neurogenic-bladder>.
4. Manack A, Motsko SP, Haag-Molkenteller C, Dmochowski RR, Goehring Jr EL, Nguyen-Khoa BA, et al. Epidemiology and Healthcare Utilization of Neurogenic Bladder Patients in a US Claims Database. *Neurourol Urodyn* 2011;30:395401.
5. Otsuki EN, Araujo E, Oliveira E, Sartori MGF, Girão MJBC, Jármay-Di Bella ZIK. Ultrasound Thickness of Bladder Wall in Continent and Incontinent Women and Its Correlation with Cystometry. *Sci World J* 2014; 2014:684671. doi: 10.1155/2014/684671
6. Al-Dabbagh AAD. Urodynamic Assessment of Neurogenic Bladder in Spinal Cord Injury. *Iraqi J Comm Med* 2009;23:41-4.
7. Gill BC, Vasavada SP, Firoozi F, Rackley RR, Talavera F, Raz S, et al. Neurogenic Bladder [cited 2017 Dec 1]. Available from: [emedicine.medscape.com/article/453539](http://emedicine.medscape.com/article/453539)
8. Ozveren B, Keskin S. Presentation and prognosis of female acute urinary retention: Analysis of an unusual clinical condition in outpatients. *Urology Annals* 2016;8:4448.