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CASE REPORT

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Safety of Sacral Neuromodulator in Pregnancy-A Case Report

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Abstract

Fowler's syndrome described as a disorder that consists of chronic urinary retention and abnormal electromyography (EMG) activity in the absence of any structural pathology. Among females the prevalence of Fowler's syndrome is rare. One of the treatment options for Fowler's syndrome is using Sacral Neuromodulator device that can restore voiding. Most physicians advise the pregnant women to turn off the device during their pregnancy and labor to keep the mother and infant health. However, our case went against medical advice and kept the device on based on her request and responsibility. Unexpectedly the pregnancy was uneventful, healthy term infant was born and without complication. All labs were within normal range, and no abnormality showed in the imaging. In conclusion, using Sacral Neuromodulator device during pregnancy and labor may be safe in some cases, but it requires continuous follow-up.

Keywords: Urinary retention; Sacral neuromodulator; Flower's syndrome

Introduction

Fowler's syndrome was described in 1986 as a disorder that consists of chronic urinary retention and abnormal electromyography (EMG) activity in the absence of any structural pathology. FS is a cause of urinary retention in young women in which show burst and complex repetitive release on EMG, and those who showed no activity on EMG are said to have idiopathic no obstructive urinary retention [1]. Fowler's syndrome characterized by a primary failure of urethral sphincter relaxation; and unique urethral sphincter EMG findings in the absence of any structural pathology [2]. The most patient starts the treatment with conservative therapies. Roughly 40% of patients either don't accomplish an adequate level therapeutic benefit or remain refractory to treatment. Sacral neuromodulation (SNM), a minimally invasive therapy, has been shown to be a permissive and effective therapy in the restoration of spontaneous voiding and remains effective for several years in patients with Fowler's syndrome [3]. The use of SNM during pregnancy is very uncommon. In our case-patient has implanted SNM and was activated during her pregnancy with no complication for fetus and mother.

Case Presentation

This is a case of 35-year-old female who known to have Fowler's Syndrome. She was using clean intermittent catheterization (CIC) on a regular basis. She was evaluated and then was started to be worked up for sacral neuromodulation therapy.

Initially, started with the first stage which was extremely successful and the patient was voiding spontaneously with minimal usage of the catheter to drain the postvoid residual. Then, she was permanently implanted about two years ago. She was on regular follow-up in our clinic and was voiding regularly. The side effects of using the sacral modulation during the pregnancy were discussed with the patient.

On one of her clinical follow-up visits, she presented in her first trimester of pregnancy. The patient was advised to turn off the device as she was pregnant and there is no evidence showed that it is safe for pregnancy and despite that patient went against medical advice and kept it on her responsibility because she was afraid using CIC might cause recurrent urinary infections. The pregnancy was uneventful and healthy term infant was born, without complication, all labs were within normal range and no abnormality showed in the imaging. She has one episode of UTI, and she claimed that because she turned off the device.

At 40 weeks of gestation, the woman delivered a healthy infant normally through the vagina. There were no issues noticed caused by SNM with the delivery, either for patient or infant. Sacral Neuromodulator was active throughout the pregnancy and postpartum.

Discussion

The incidence of Fowler's syndrome among females is rare, The incidence rate is 2/10,00,000 per year and it affects females with an average age of 20–30 years [4]. However, those cases that do happen may show significant management problems to the urologist. While regarding fit young females with a complete inability to void and intolerance of intermittent self-catheterization reasonably demand an alternative to a long-term indwelling suprapubic catheter. Sacral neuromodulation which has been found to be the effective treatment of Fowler's syndrome through the implanted device [5]. Treatment of the urinary retention in females is mainly in the form of urethral

dilatation, intermittent catheterization, botulinum toxin injection of the urethral sphincter and alpha blockers. Spontaneous recovery has been observed in 42% of patients, in which precipitating factors were present such as post pelvic surgery and postpartum [6]. Sacral neuromodulation, a minimally invasive therapy, has been shown to be a permissive and effective therapy in the restoration of spontaneous voiding and remains effective for several years in patients with Fowler's syndrome [3]. It is approved by the FDA for the treatment of this condition. The mechanism of action is based on the electric stimulation of the S3 and S4 nerves; however, mechanism of action is still unclear. SNM consists of an implanted lead that lies along a sacral nerve root and is connected to an implanted pulse generator. A patient programmer is also available and allows the discontinuation of the device at any time [7,8].

Because of the rare occurrence of bladder dysfunction among females during their reproductive years, the use of sacral neuromodulation during pregnancy is very uncommon. Consequently, the experience of the effects of SNM on pregnancy is limited. There is a theoretic risk of the teratogenic effect on the developing fetus and theoretic risk of preterm labor because the uterus and the bladder may share the same nerve roots. The International Urogynecological Association has advised women to deactivate their pulse generator as soon as their pregnancy is diagnosed [9]. Khunda et al. [10] Studied of 13 pregnancies women with sacral neuromodulation and came to the conclusion that turning off the neuromodulation is associated with an increased risk of urinary tract infection recurrence and furthermore preterm delivery, this study's conclusion matched with our case. While a review of the relevant literature revealed only 1 article that concluded that a sacral neuromodulation device should be deactivated during pregnancy because the effect on the fetus is unpredictable [9].

Conclusion

Fowler's Syndrome rarely occurs among females [11]. The use of sacral neuromodulator during pregnancy for a patient known to have FS is very uncommon [9]. The International Urogynecological Association has advised women to deactivate their pulse generator as soon as their pregnancy is diagnosed [9]. However, our case continued her pregnancy without turning off the sacral neuromodulator device. The pregnancy was uneventful, without complication, all labs were within normal range and no abnormality showed in the imaging. Infant and mother were in good health status. There were no issues noticed caused by SNM with the delivery, either for patient or infant. Sacral Neuromodulator was active throughout the pregnancy and postpartum without complication.

References

1. Meliegy AIE, Torky M (2015) An observational study to monitor the efficacy and tolerability of levofloxacin 500 mg once daily for treatment of chronic bacterial prostatitis in Saudi Arabia. Urol Ann 7: 71-73.
2. Mehmood S, Altaweel WM (2017) Long-term outcome of sacral neuromodulation in patients with idiopathic nonobstructive urinary retention: the Single-center experience. Urol Ann 9: 244-428.
3. Kavia RB, Datta SN, Dasgupta R, Elneil S, Fowler CJ (2006) Urinary retention in women: its causes and management. BJU international 97: 281-287.
4. Salim G, Agdi M, Al-Zebeidi J, Dawood A, Al-Jaroudi D (2017) Fowlers syndrome post oocyte retrieval for intracytoplasmic sperm injection. Case Rep Womens Health 14: 4-5.
5. Hoeritzauer I, Stone J, Fowler C, Elneil S, Carson A, et al. (2016) Fowler's Syndrome of Urinary Retention: A Retrospective Study of Co-Morbidity. Neurourol Urodyn 86: 35: 601-603.
6. Swinn MJ, Wiseman OJ, Lowe E, Fowler CJ (2002) The cause and natural history of isolated urinary retention in young women. J Urol 167: 151-156.
7. Mamopoulos A, Stavrakis T, Mavromatidis G, Rousso D (2014) Active sacral neuromodulator during pregnancy: a unique case report. Am J Obstet Gynecol 211: e4-e5.
8. Long CY, Hsu SC, Chang Y, Chen YC, Su JH, (2004) The clinical and urodynamic effects of the tension free bladder neck sling procedure. Int Urogynecol J Pelvic Floor Dysfunct 15: 344-349.
9. International Urogynecological Association (2013) Sacral neuromodulation: a guide for women. Washington, DC: IUGA, USA.
10. Khunda A, Karmarkar R, Abtahi B, Gonzales G, Elneil S (2013) Pregnancy in women with Fowler's syndrome treated with sacral neuromodulation. Int Urogynecol J 24: 1201-1204.
11. Sokol AI, Jelovsek JE, Walters MD, Paraiso MF, Barber MD. (2005) Incidence and predictors of prolonged urinary retention after TVT with and without concurrent prolapse surgery. Am J Obstet Gynecol 192: 1537-1543.