Can childbearing spinal cord injury women with continent cutaneous urinary diversion have child?

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Abstract

Over the last half century, significant improvements in health outcomes for individuals with spinal cord injury (SCI) and growing recognition those women with SCI can become pregnant. However, pregnancy must be rated as high risk and requires multidisciplinary medical care as higher rate of complication compare to general population. Most of published literature grouped all patients with lower urinary tract reconstruction (LUTR) like exstrophy–epispadias complex, spina bifida, interstitial cystitis urogenital sinus or fistula, but our article is focusing in the childbearing SCI women who undergone cutaneous continent urinary diversion (CCUD) with mitrofanoff procedure. We report two cases of three successful pregnancies in this population.

Keywords: Appendix, mitrofanoff, pregnancy, spinal cord injury, urinary diversion, vaginal delivery

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INTRODUCTION

The management of pregnancy and delivery in women with continent cutaneous urinary diversion (CCUD) is challenging and the currently available literature is insufficient to guide clinical practice. Pregnancy in a patient with urinary diversion is rated as high risk and requires multidisciplinary medical care of gynecologists, obstetricians, and urologists in a center of expertise.[1,2] The main complications of pregnancy are urinary tract infection (UTI), pyelonephritis, dilatation of the upper urinary tract, urogenital prolapse preeclampsia, and risk factor for early abortion.[3]

In these two cases, we presented three successful pregnancies in two patients with spinal cord injury (SCI) and CCUD, two cesarean section and one vaginal delivery with literate review.

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CASE REPORTS

Case 1 report

A 31-year-old female was primigravida with a history of tetraplegic post-SCI in 2003. She was operated in 2005 and CCUD type Mitrofanoff and enterocystoplasty was done.

She presented in 8/2010 with 9 weeks of pregnancy. She had low-risk screening tests and a normal detailed anomaly scan. She was managed by a multidisciplinary team of obstetricians and urologists. She was screened on a monthly basis for hypertension, UTIs, deterioration in

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renal functions, and hydronephrosis. She remained well throughout her pregnancy.

She went into spontaneous labor at 38 + 4 weeks and delivered a healthy male baby (2.93 kg) by Cesarean–section through lower midline incision and longitudinal uterus incision (urologist was present). When labor started, a Foley's catheter was inserted through her umbilical stoma for free drainage of urine which was removed the day after delivery. She remained well postnatally and was discharged home on the 5th postnatal day. She had urinary infection in the postnatal and she started to have difficult autosondage which was treated conservatively for 1 year (with change of catheter size and type and trial of catheterization keeping indwelling catheter for 15 days), but the end redo of the CCUD channel because of excess longer was done with successful result.

Case 2 report

A 37-year-old female, G2P2, tetraplagic post public road accident in 2001, had been operated (CCUD with mitofanoff stoma) in 2005. She got here first pregnancy in 2012. She had low-risk screening tests and a normal detailed anomaly scan. She was managed by a multidisciplinary team. She was screened on a monthly basis. She got abstractive pyelonephritis in her 6th month of pregnancy which necessitated urinary diversion by end-ureteral protease and then remained well throughout her pregnancy. She delivered male baby by spontaneous vaginal delivery. Postnatally, she got left pulmonary atelectasis which was traded medially in high dependency bed and then patient was discharge home in the 4th day postdelivery.

She presented in 2019 with 2ed planned pregnancy. She had low-risk screening tests and a normal detailed anomaly scan. She was managed as per protocol. She went into spontaneous labor at 37 + 5 weeks and delivered a healthy male baby (3.2 kg) by Cesarean–section through lower midline incision and transverse low uterus incision under epidural anesthesia with the presence of here urologist. Foley's catheter was removed the day after delivery. Postnatally, she got also left pulmonary atelectasis also and she was admitted for 1 day in intensive care unit for monitoring, and then was transferred next day in to gynecological ward. She was discharge home in the 5th day postdelivery. Patient had successful outcome without any consequences after discharge. At 3 months of follow-up postdelivery, she continued to practice the autosondage normally without any difficulty.

DISCUSSION

In the past 20 years, there have been significant advances to improve the care of adult SCI patient.[4] These population has almost the same sexual desires as their nonneuropathic peers and are sexually active.[5] Multidisciplinary medical care always recommended in these pregnancy as it is high risk pregnancy.[3]

In our article, one patient developed obstructive pyelonephritis and required derivation by ureteral endo-protease in her 27 week of pregnancy. Emergency upper urinary tract diversion during pregnancy is required in 10%–40% of these women.[2] According to the literature, febrile UTIs is observed in about 30% of pregnancies.[3] There is controversy in literature regarding prophylactic treatment of asymptomatic bacteriuria in women performing intermittent self-catheterization to prevent symptomatic or febrile UTI and low birth weight.[3]

Catheterization difficulty (autosondage) after delivery was observed in one patient in our study and she required redo of the mitrofanoff stoma. Literature show 10%–30% of women experienced self-catheterization difficulties during pregnancy with more common in the right iliac fossa than umbilical position.[2]

Elective cesarean-section still represents the predominant mode of delivery in this population. Vaginal delivery can be proposed as first-line option in women with CCUD, in the absence of any major genital malformation, obstetric, anesthetic, or neurologic contraindication.[2] C-section, even when it is elective should be accompanied by a full surgical team, including an urologist. During the c-section we should always keep in mind that the enterocystoplasty and channel of CCUD vascularization are usually in the right side of incision and for that the incision for the cesarean should use the same lower umbilical midline incision and then we go to the left side of the enterocystoplasty to avoid the vascularity damage [Figure 1]. Uterus incision can be longitudinal or transvers.

The incidence and severity of genital prolapse after birth have been reported to be similar after vaginal delivery or C-section. Prematurity is reported in about one-quarter of cases, mostly with bladder exstrophy and rarely with neurogenic bladder.[2] The rates of urinary continence in women with CCUD after delivery is almost similar to the rate observed in general population 84.7% and 91%, respectively.[2]

CONCLUSION

SCI women with CCUD can become pregnant and can have normal life but pregnancy must be rated as high risk and requires multidisciplinary medical care of gynecologists, obstetricians and urologists in an expert center.

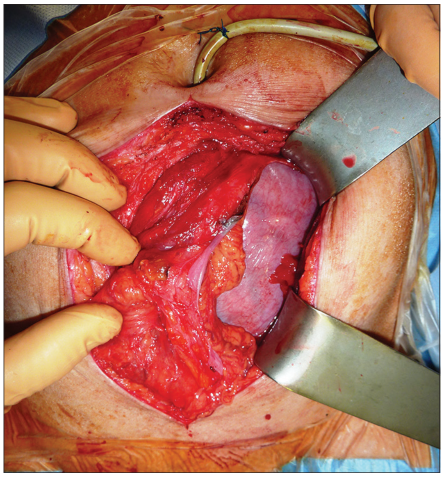

Figure 1: Lower midline incision for C-section in case 1, left side of picture: Continent cutaneous urinary diversion channel with the catheter inside, right side of picture: uterus, we advise always to go uterus side to the midline after the aponeurosis to avoid damage to vascular pedicle of the stoma in the other side

Consent

Written informed consent was obtained from the patients for the publication of this case report and accompanying images.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given her consent for her images and other clinical information to be reported in the journal. The patient understand that name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Iezzoni LI, Chen Y, McLain AB. Current pregnancy among women with spinal cord injury: Findings from the US national spinal cord injury database. Spinal Cord 2015;53:821-6.
2. Bey E, Manach Q, Peyronnet B, Even A, Chartier Kastler E, Walder R, *et al.* Pregnancy and delivery in women with lower urinary tract reconstruction: A National Multicenter Retrospective Study from the French-Speaking Neuro-Urology Study Group (GENULF) and the Neuro-Urology Committee of the French Association of Urology. J Urol 2020;204:1263-9.
3. Huck N, Schweizerhof S, Stein R, Honeck P. Pregnancy following urinary tract reconstruction using bowel segments: A review of published literature. World J Urol 2020;38:335-42.
4. Roth JD, Casey JT, Whittam BM, Szymanski KM, Kaefer M, Rink RC, *et al.* Complications and outcomes of pregnancy and cesarean delivery in women with neuropathic bladder and lower urinary tract reconstruction. Urology 2018;114:236-43.
5. Sagili H, Singh P, Manikandan K, Dasari P. Vaginal delivery after augmentation cystoplasty and Mitrofanoff's procedure for incontinence following traumatic bladder neck transection. J Obstet Gynaecol 2013;33:740-1.