

THE IMPLICATIONS OF URINARY TRACT RECONSTRUCTION ON PREGNANCY

Hypothesis / aims of study

Bladder augmentation and urinary diversion is commonly performed in neurological and other congenital anomalies of the lower urinary tract. The outcome of pregnancy in women who have undergone urinary tract reconstruction remains unclear. This study aimed to evaluate the antenatal and intrapartum management, and outcomes of pregnancy following urinary tract reconstruction.

Study design, materials and methods

A retrospective review of data collected prospectively between 2010 and 2015 identified 34 pregnancies in 29 patients (median age 31.2 years, range 17–46). Primary abnormality and indication for reconstruction included uro-genital anomalies, functional voiding disorders and malignancy.

Indications included exstrophy-epispadias (9/29), spinal dysraphism (4/29), sacral agenesis (2/29), Fowler's syndrome (1/29), neuroblastoma (2/29), bladder cancer (1/29), congenital incontinence/small bladder/short urethra (8/29), congenital vesicoureteric reflux (1/29) and urogenital sinus (1/29).

Previous urological reconstruction included augmentation cystoplasty (15), ileal conduit (1), Mitrofanoff channel (15), ureteric reimplantation (4), colposuspension (2), artificial urinary sphincter (2) and antegrade continence enema channel (1). Five patients had a solitary kidney.

Results

There were 35 (1 set of twins) live-births comprising 17 girls and 18 boys. Mean gestation at delivery was 36 weeks (33 - 38) and mean birthweight was 2.78 kg (1.79 – 3.50). The majority were delivered by elective Caesarean section (94.1%, 32/34) performed jointly by a urologist and obstetrician. Two women sustained bladder injury during surgery with no long-term complications. Another two women developed vesicocutaneous fistulas which resolved spontaneously (6.25%, 2/32). One woman required early (37 weeks) Caesarean section due to deterioration in renal failure. Pregnancy-related urological complications included UTI requiring hospital admission (11.8%, 4/34) and upper tract obstruction requiring nephrostomy (20.6%, 7/34). Three women had difficulty with the Mitrofanoff, requiring indwelling catheters.

Interpretation of results

32/34 women had an elective Caesarean section, 1/34 had an emergency Caesarean section and 1/34 opted for a vaginal delivery with no significant complications. An array of complications were recognised antenatally, intra-operatively and post-operatively and all resolved following the post-partum period. Normal renal function was restored in all women following delivery. No long-term complications were identified.

Concluding message

Pregnancy can be safely managed with preservation of renal function in women who have previously undergone urinary tract reconstruction. These women are prone to complications and require shared care, judicious monitoring and thorough counselling throughout pregnancy to diagnose and manage complications proactively. Patients should be made aware of the impact of pregnancy and the high rate of pregnancy related complications. Although some of these women could potentially achieve a vaginal birth, we favour planned Caesarean section, jointly performed by an obstetrician and urologist, in order to avoid the potential maternal and fetal risks of a complex emergency Caesarean section.

References

1. 1. Pregnancy after lower urinary tract reconstruction for congenital abnormalities. Greenwell TJ, Venn SN, Creighton S, Leaver RB, Woodhouse CR. *BJU Int.* 2003 Nov;92(7):773-7.

Disclosures

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