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Pregnancy and Delivery in a Woman with Repaired Spina Bifida, Neurogenic Bladder, and Complex Psychosocial Vulnerabilities: A Case Report

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Abstract

Background: Women living with spina bifida and significant physical disability face complex medical, psychosocial, and reproductive challenges. Evidence from low-resource settings is limited, especially where maternal–fetal medicine (MFM) and rehabilitation services are scarce.

Case presentation: We report the case of a 27-year-old woman with repaired spina bifida, bilateral talipes, neurogenic bladder, and major limb amputation, with a background of profound psychosocial adversity. Despite advice for pregnancy termination due to anticipated maternal and fetal risks, she carried her pregnancy to term and delivered a live female infant weighing 2.3 kg by elective cesarean section. Antenatal care required a multidisciplinary approach with monitoring for urinary tract infections, renal function changes, and mobility limitations. Both mother and infant had favorable outcomes.

Conclusions: This case highlights the need for individualized, multidisciplinary care for women with complex congenital and acquired disabilities, integrating obstetric, urologic, orthopedic, anesthetic, and psychosocial support. It underscores the importance of respecting reproductive autonomy in medically high-risk pregnancies.

Keywords: Spina bifida, neurogenic bladder, limb amputation, pregnancy, cesarean section

Background

Spina bifida is a congenital neural tube defect associated with lifelong physical impairment, neurogenic bladder, recurrent infections, chronic orthopedic complications, and limited access to reproductive health services. Increasing numbers of women with repaired spina bifida survive into adulthood and pursue pregnancy; however, reproductive outcomes may be complicated by neurogenic bladder, mobility limitations, musculoskeletal deformities, recurrent infections, and chronic wounds (1–3). Psychosocial adversity—including poverty, stigma, and limited social support, further compounds risks (4). Data from sub-Saharan Africa are scarce, where structured rehabilitation and long-term follow-up are often unavailable.

We present a case illustrating pregnancy in a woman with repaired spina bifida, major limb amputation, neurogenic bladder, and profound psychosocial vulnerability, highlighting challenges and lessons for MFM teams in resource-limited settings.

Case presentation

The patient, born in 1989 to a nurse mother, had spina bifida with bilateral talipes and underwent early surgical repair of a lumbosacral defect at Mulago Hospital. Orphaned in 1993, she was raised under strict conditions and experienced repeated psychosocial crises, including suicide attempts and periods of homelessness. She completed secondary education and a diploma in Human Resource Management through a local Cheshire home.

Medically, she experienced chronic osteomyelitis of the left leg, resulting in multiple scars but no surgical intervention, and three serial amputations of the right leg for suspected sarcoma, culminating in an above-knee amputation. She also had surgery for epigastric hernia (2017) and gallbladder stones (2019). She has a chronic neurogenic bladder, self-catheterizes intermittently, and is wheelchair-dependent for mobility.

Her first pregnancy ended in first-trimester miscarriage. In her second pregnancy, she was counseled on high maternal and fetal risks due to mobility limitations, recurrent infections, urologic compromise, and psychosocial vulnerability and was advised to consider termination; the father abandoned her. She elected to continue the pregnancy.

Antenatal care was complicated by preeclampsia without severe features, intermittent urinary tract infections treated according to culture sensitivities, chronic pain, and mobility limitations. Psychological distress persisted, though she declined formal counseling.

Delivery occurred at 38+5 weeks by elective cesarean section due to pelvic asymmetry, anticipated neuraxial anesthesia challenges, and positioning constraints (1,5). A healthy female infant weighing 2.3 kg was delivered, requiring brief neonatal unit support for respiratory distress. Postpartum recovery for the mother was uncomplicated, and she continued self-catheterization successfully.

Pregnancy management

Preconception counseling included high-dose folic acid (5 mg daily) due to increased risk of neural tube defect recurrence (6). Baseline renal function and urine cultures were obtained. Multidisciplinary consultations involved spinal rehabilitation, urology, orthopedics, and anesthesiology.

During pregnancy, she continued clean intermittent self-catheterization (CISC) and experienced two UTIs managed with antibiotics, consistent with elevated infection risk in neurogenic bladder pregnancies (2,7). Serial fetal ultrasounds demonstrated normal growth without neural tube defects. Functional mobility declined in the third trimester due to spinal curvature and prosthetic discomfort, consistent with prior reports on functional changes during pregnancy in women with limb loss (4).

Cesarean delivery was chosen due to pelvic asymmetry, lithotomy positioning challenges, and anticipated difficulty with neuraxial anesthesia (1). General anesthesia was used. A healthy infant was delivered with Apgar scores 8 and 9, admitted to the neonatal unit due to respiratory distress, discharged stable. Postpartum course was uncomplicated aside from a single UTI, aligning with existing literature (7,8).

Discussion

Women with spina bifida frequently face chronic neuropathic bladder dysfunction, mobility impairment, pressure ulcers, and increased infection risk, which complicate pregnancy (2,8). Additional challenges in this patient included recurrent osteomyelitis, limb amputation, and psychosocial adversity, necessitating complex, multidisciplinary care.

The case highlights the ethical importance of respecting reproductive autonomy even under medically high-risk circumstances. Despite advice to terminate, the patient's choice demonstrates resilience and

agency. Multidisciplinary planning, including obstetrics, orthopedics, urology, anesthesia, rehabilitation, social work, and mental health, is critical to favorable outcomes (1–4,6–8).

Pregnancy outcomes in women with spina bifida are optimized with careful surveillance for UTIs, renal function monitoring, and individualized mobility support. Cesarean delivery is frequently required due to pelvic structural abnormalities or anesthetic limitations (1,5,9). General anesthesia is a safe alternative when neuraxial techniques are not feasible (1).

This case underscores that favorable pregnancy outcomes are achievable in women with complex congenital and acquired disabilities when anticipatory, individualized, multidisciplinary care is provided.

Conclusions

Pregnancy and delivery in women with complex congenital and acquired disabilities are feasible but require coordinated, empathetic, and multidisciplinary care. Health systems should address both medical and psychosocial determinants to optimize maternal and neonatal outcomes. Respecting reproductive autonomy is essential even when pregnancies are high-risk.

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