Pregnancy and Spinal Cord Injury, How it Can Get Complicated

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Disclosures

The presenter of this session have nothing to disclose.

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SCI Stats

- 250,000 Americans are spinal cord injured.
- 11,000 new injuries per year
  52% of spinal cord injured individuals are considered paraplegic and 47% quadriplegic.
- Most new SCI cases occur in persons younger than 30 years old

(CDC Website 2013)
(© 2002-13 Spinal Cord Injury Information Pages)
Gender distribution among SCI

- 56% of injuries occur between the ages of 16 and 30 (fertile years)
- 18%-20% are female
SCI and Pregnancy

- Almost 14% of women with SCI have at least one pregnancy after injury.

- Fertility in these women is usually not affected by the SCI.

- There has not been much research about SCI and pregnancy – information is mostly anecdotal.
Obstetric outcomes of women with spinal cord injuries.

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Florida Study

- Database 1. (women with SCI) from the Brain and Spinal Cord Injury Trust Fund, State of Florida,
- Database 2. (women with SCI) from Vocational Rehabilitation State of Florida
- Initial questionnaire: 133 women responded
  - 11 excluded due to diagnosis other than SCI
  - 8 excluded because of injury after the age of 40 years
Florida Study

- 57 women (50%) desired pregnancy
- 41 women successfully conceived
- 24 women continued the pregnancy
- 24 women had a total of 37 babies
SCI and Pregnancy Information

- Only 20% of women of child-bearing age had received information about pregnancy during rehabilitation.
- Only 10% of them found it adequate.
Available Educational Material

- An extensive review of existing pamphlets, videos and websites conducted by the proposed project director in 2009 confirmed that the SCI field lacks substantive educational materials on pregnancy and obstetrical outcomes of women with spinal cord injuries.
Florida study

- 24 Women responded to a second more detailed questionnaire regarding their experience with pregnancy and delivery.

- We tried to obtain medical records to confirm outcomes but were unsuccessful in most cases.
Clinical need for Coordination of Care/Initial Assessment

- Assessment with OBGYN
- Prenatal Care can never begin too soon
  - vitamin and iron supplementation (SCI and Anemia)
- SCI level and risk of Autonomic Dysreflexia
- Medication discussion, Respiratory health, Urologic, Bowel, Bladder, Spasticity, Mental health, Skin care
- Discuss conditions of SCI and Secondary Complications
- Coordination of Care with Therapists and Doctors
Additional considerations: early pregnancy

- Obtain and document level of motor and sensory deficit associated with the SCI (ASIA impairment scale)

- Evaluate the following:
  - woman’s adaptation to the disability
  - fear of pregnancy/caring for the child
  - Knowledge deficits about short- and long-term effects of pregnancy on health of women with physical disabilities
Routines

- Obtain medication and therapeutic modalities used
- Assess wheelchairs and equipment, transfer techniques
- Therapies and work-out routines, including any type of electric stimulation, consult with therapist if possible
Coordination of Care

- Discuss Hospital chosen for delivery: is it accessible? are the OBGYN rooms accessible?
- Is the Prenatal care assessable or are there barriers?
- Medical Diagnostic Equipment available: is it available for ease? how will transfers be done for exams?
- If needs change, will the MDs be available to write prescriptions, ie new cushions etc.
Complications
Potential risks to mothers

- Autonomic dysreflexia
- Urologic problems
- Independence
- Skin breakdown (decubitus)
- Pulmonary dysfunction
- Thromboembolism
- Pre-term Labor
- Depression

Management Prevention
Autonomic dysreflexia: Management

- 27% of women studied experienced worse AD during pregnancy
Autonomic dysreflexia: Management

During labor:

- Epidural anesthesia extending to T10 level to block sympathetic stimulation (even prolonged epidural is OK for PreTerm Labor)

- Epidural Anesthesia beneficial not just for AD in the mother, but also to prevent fetal distress due to maternal AD.

- For C Section: Spinal vs epidural
Urologic Conditions

- High incidence of UTIs during pregnancy and delivery.
- Most pregnant women stated they changed their urological management during pregnancy.
- Monitor antibiotics for safety.
- Worse Urinary Incontinence in 38%.
- Worse UTIs in 51%.
Respiratory dysfunction

- Mothers may experience inability to breathe as easily and may in fact be at risk for respiratory infections and even pneumonia during pregnancy and after delivery.

- Asthma may also occur for the first time or worsen during pregnancy.
Thromboembolism

- Increased risk during pregnancy and delivery
- 8% studied had a thrombotic event
Prophylaxis during pregnancy with subcutaneous heparin if score ≥3:

- **Score 1**: BMI >30; age >35; smoker; varicose veins; family history of VTE; preeclampsia; systemic infection; Paraplegia;
- **Score 2**: known thrombophilia; medical co-morbidities; surgical procedure during pregnancy
- **Score 3**: previous thromboembolism
RCOG Risk assessment for thromboembolism prophylaxis

Postpartum Prophylaxis with subcutaneous heparin for 7 days if score ≥ 2:

- **Score 1:** BMI > 30; age > 35; smoker; varicose veins; family history of VTE; preeclampsia; systemic infection; paraplegia; elective Cesarean section; Postpartum Hemorrhage > 1000 mL; labor > 24 hours; parity > 3
- **Score 2:** BMI > 40; known thrombophilia; medical co-morbidities; Cesarean section in labor; prolonged hospital admission
- **Score 3:** previous VTE
Skin Breakdown

- Of the responders in our study, 11% had skin breakdown either during pregnancy or after delivery.
- Importance of change in position during labor & delivery
- Spasticity increased in 22% of respondents
Independence

- Weight gain and exhaustion lead many women to lose independence.
- Consult SCI clinicians, PT, OT, PMR, other wheelchair users for ideas to maintain independence.
- Changes in equipment, lifts, power chairs and sliding boards, as well as extra assistance was used by all women studied to maintain independence.
- 51% had difficulty transferring to wheelchair
Pre-Term Labor and delivery

- Increased risk of preterm delivery
- Inability to feel contractions
  - Instruct mom to feel the contraction with their hands and monitor abdomen
  - Consider Home Uterine Activity Monitoring (the frequency of contractions increases as a woman gets closer to delivery)
Depression and fear

- Post-partum depression was reported by 35% of the women who delivered.
- 5% was severe enough to require medical therapy.
- 43% were fearful about being pregnant.
- 46% were worried about child care.
- 19% felt they did not have adequate help at home.
- 5% regretted being pregnant.
Lack of knowledge of providers

- Oshima et al. did a survey of obstetrics and gynecology residents:
  - only 43% were “comfortable” in managing a pregnant woman with SCI
  - only 36% felt the outcome of the pregnancy would be good
Outcomes

- Despite the increased risk of complications during pregnancy, there is no evidence that the overall maternal or neonatal outcome of pregnancy is worse in women with SCI compared with the general obstetric population.
Quality of Life

- Overall 23/24 women responded that being a parent increased the quality of their life.
- 23/24 also said given the chance to do it again, they would.
- The only one who did not feel this way had an autistic child and did not think she could care for another child.
www.sci-pregnancy.org

- Website with Pamphlets for consumer who is pregnant with SCI.
- Guidelines for Clinicians.
- List of Commonly used SCI Medications which can and cannot be used during pregnancy.
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Thank you!
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