Cesarean Section: Does It Really Prevent The Development Of Postpartum Stress Urinary Incontinence?

Protocol of thesis
Submitted in Partial Fulfillment
Of Master Degree In Obstetrics and Gynecology

By

Nora Mohammed Eid
(M.B. B.CH) - Cairo University2002
Resident of Obstetrics and Gynecology
Fayoum General Hospital

Under the Supervision of

Prof .Amr Abdel Aziz Nadim
Professor of Obstetrics and Gynecology
Faculty of medicine-Ain Shams University

Dr. Nashwa Elsaid Hassan
Lecture in Obstetrics and Gynecology
Faculty of medicine- Ain Shams University

Faculty of medicine
Ain Shams University
2010

الولادة القيصرية هل تمنع حقاً حدوث السلس البولي الانفعالي بعد الولاده ؟

بحث مقدم توطئة للحصول علي درجة الماجيستير في امراض النساء والتوليد

مقدمه

نوره محمد عيد معوض

بكالوريوس طب وجراحه - جامعة القاهره - ٢٠٠٢

طبيب مقيم فى أمراض النساء والتوليد بمستشفى الفيوم العام

تحت إشراف

الاستاذ الدكتور/ عمرو عبد العزيز نديم

أستاذ أمراض النساء والتوليد

كلية الطب – جامعة عين شمس

دكتوره/ نشوي السعيد حسن

مدرس أمرآض النساء واتوليد

كلية الطب – جامعة عين شمس

كلية الطب

جامعة عين شمس

٢٠١٠

Summary

Female stress urinary incontinence is a common symptom, the prevalence of which varies between 5%-40% of the female population, according to the age group. Stress incontinence is involuntary loss of urine during an increase of intra-abdominal pressure produced from activities such as coughing, laughing or exercising **(Patrick et al., 2000).**

Pregnancy and parturation have been implicated in the development of pelvic floor disorders (PFD): **(Delancey et al., 2005).**

Urinary incontinence during pregnancy may result from a combination of factors as increased incidence of bladder instability higher progesterone levels that induce a reduction in estrogen receptor concentration, modification of the anatomic relation between the bladder and the enlarged uterus, decreased tensile strength of the fascia and bladder neck anchoring system, congenital weakness of pelvic floor supports, an increase in glomerular filtration rate , bladder irritability and environmental predispositions. **(Hung-Yen Chin et al., 2006).**

Risk factors of Urinary incontinence after delivery include Urinary incontinence that appears during pregnancy ,Vaginal delivery is a major risk factor for urinary incontinence especially the first vaginal delivery is the most harmful to the pelvic floor. Urinary Incontinence occure due to pelvic organ mobility, Direct evidence of fascial trauma,levator trauma and Pudendal nerve damage during labour **(Hung-Yen Chin et al 2006).**

Introduction

Urinary Incontinence (UI) is common and distressing problem among females **(Abrams et al., 2003).** According to the International continence society**,** urinary incontinence is a condition in which involuntary loss of urine is a social and hygienic problem and is objectively demonstrable. It includes many types as stress incontinence, overactive bladder, mixed incontinence. Overflow incontinence, lack of continuity or deformity and functional incontinence. Stress incontinence has proved to be the predominant type with incidence of 12% to 24% among adult women **(Sze et al., 2002).**

Stress urinary incontinence is most commonly associated with pregnancy and the postnatal period **(Rortveit et al., 2003).** Stress incontinence is involuntary loss of urine during an increase of intra-abdominal pressure produced from activities such as coughing, laughing or exercising .The underlying abnormality is typical urethral hyper mobility caused by a failure of the normal anatomic support of the urethrovesical junction (or bladder neck). Normally increased intra-abdominal pressure is transmitted evenly across the bladder body and neck, but when poor anatomic support allows the bladder neck to be displaced outside the abdominal cavity during such activities as coughing or laughing, disproportionate rise in bladder pressure over urethral pressure results in urine loss **(Patrick et al., 2000).**

Pregnant women may experience stress Incontinence

because of hormonal changes and the increased weight of an enlarging uterus in addition, the stress of a vaginal delivery can weaken muscles needed for bladder control **(Mayo clinic guide line. ,2009).**

The changes that occur during childbirth can also damage bladder nerves and supportive tissue, leading to a dropped (prolapsed) pelvic floor. With prolapse , the bladder, uterus ,rectum or small bowel can get pushed down from the usual position and protrude in the vagina . Such protrusions can be associated with incontinence. **(Mayo clinic guide line., 2009).**

Cesarean delivery was found to decrease the risk of stress urinary incontinence significantly as vaginal delivery can produce neurologic changes in the pelvic floor, which results in adverse effects on pudendal nerve conduction velocities, vaginal contraction strength, and urethral closure pressures. Presumably, these alterations may account for the persistence or onset of stress incontinence in women after vaginal delivery. After cesarean delivery, these pathophysiologic changes are less pronounced **(Roger et al., 2003).**

Incontinence related to childbirth may develop right after delivery or take years to develop **(Mayo clinic guide line., 2009).**

The first vaginal delivery is major risk factors for the development of stress urinary incontinence .Additional risk factors other than mode of delivery include heredity, collagen

abnormalities, obesity and parity. Women who reported stress urinary incontinence had significantly more children and high body mass Index and were older than women who did not report this symptom **(Roger et al., 2003).**

Women who are pregnant or who have gone through childbirth can reduce their risk for stress incontinence by strengthening their perineal area muscles with Kegel exercises **(Blaivas and Jerry 1998)**.

Some urinary incontinence experienced after vaginal birth may result from obstetrical practices in need of improvement. Routine use of episiotomies **(Klein et al., 1994)** Routine use of epidurals **(Lieberman and O`Donoghue2002)**,Prolonged closed glottis pushing **(Sampselle and Hines 1999)**, and lithotomy and other nonphysiologic positions for birth likely cotribute to pelvic floor dysfunction**(Schaffer et al.,2005).**

Diagnosis of stress urinary incontinence is made by history includes the questionnaire and physical examination including the cough stress test diagnostic testing may include ultrasound, urine tests, and series of tests that measure bladder pressure and capacity and the urinary flow **(Blaivas and Jerry 1998)**.

Aim of work

The purpose of this study is to compare the occurrence of stress urinary incontinence among primiparae in the period from 6 months to one year after spontaneous vaginal delivery versus elective cesarean section or cesarean section performed for obstructed labor.

Patients and Methods

This study is designed as retrospective comparative study. The study will be carried in Ain Shams University Maternity Hospital out patient clinic. This study will include 544 women and will be done in the period of six months from march to august 2010.The study will include primiparae who delivered from 6 months to 1 year ago .patients included in this study will be divided into three groups according to mode of delivery.

Each group will include at least180 patients.

Group I: 181 consecutive primiparae who underwent spontaneous vaginal delivery.

Group II: 182 consecutive primiparae who underwent elective cesarean section for Patients with no history of trial labor given.

Group III: 181 consecutive primiparae on whom cesarean section performed for obstructed labor.

Obstructed labor was defined as a failure to progress due to mechanical problems- a mismatch between fetal size, or more accurately, the size of the presenting part of the fetus, and the mother's pelvis **(JP Neilson et al., 2003).**

Sample size calculation

Sample size was calculated using Epidemiological Info Reversion 6.0 using SPSS software, assuming a power of 80%, confidence interval 95 %, prevalence of outcome 15% and

alpha error of 0.5 %.

All patients involved in this study should have

Inclusion criteria:

1) Primiparae only will be included.
2) Age (20 – 35) years.
3) Time passed since delivery from 6 months to one year.
4) No history of medical distorted diabetes, neuropathy and hypertension.

Exclusion criteria:

1) Women how had history of stress urinary incontinence before pregnancy.
2) Patient who delivered by instrumental assisted vaginal deliveries or more than singleton fetuses.
3) Other causes of stress urinary incontinence:
   A- Over flow as diabetic neuropathy, hypothyroidism.
   B- Neurological lesions as spina bifida.
   C- Overactive bladder as interstitial cystitis.
   D- Transient causes of incontinence as:
      *Urinary tract infection.
      *Atrophic urethritis.
4) Patients with past history of pelvic or vaginal surgical operations.

Consent:

All patient involved in this study will be notified the aim of the study and oral consent will be taken before enrollment in the study.

Clinical procedures

All patients will subject to:

1-History taking:

History of gynecological, medical diseases, medications, surgical history and neurologic and endocrine disorders.

2- Obstetric data were collected from hospital record. Details of maternal, fetal, obstetric and included: maternal age, weight and height, gestational age at delivery, mode of delivery, length of first, second and active second (defined as phase of active pushing) stages of labor, use and type of analgesia(epidural, narcotics),perineal trauma: (posterolateral episiotomy,tears), fetal birth weight and Agar score.

3- History of Stress Urinary Incontinence (SUI) the symptoms of SUI were defined as involuntary leakage of urine with coughing,laughing,sneezing or any other physical effort

4- A questionnaire for Urinary Incontinence Diagnosis (QUID) will be answered by all patients to detect type of incontinence present. This questionnaire includes table has 6 questions for scoring purposes, items 1,2 and 3 contribute to the stress score, and items 4, 5 and 6 contribute to urge

score, each item's responses range from 0 to 5 points.

- The questionnaire was translated by the researcher and approved by the supervisor.
- A pilot sample was tested for ensurance of an adequate understanding of the elements of the questionnaire by the researcher.
- The questionnaire was answered during an interview conducted by the researcher.

A questionnaire for Urinary Incontinence Diagnosis)

Personal history:

- Name : .....

- Age : .....

- Sex : .....

- Marital status : .....

- Parity : .....

- Occupation : .....

- Special habits : .....

*Obesity .....

*Smoking .....

- Complaint:

Table 1: A questionnaire for Urinary Incontinence Diagnosis)

Question	Scoring					
	None of the time Score 0	Rarely Score 1	Once in awhile Time Score 2	Often the Score 3	Most of the time Score 4	All of time Score 5
Do you leak urine (even small drops), wet yourself, or wet your pads or undergarments						
1. When you cough or sneeze?						
2. When you bend down or lift something up?						
3. When you walk quickly, jump, or do exercise?						
4. While you are undressing to use the toilet?						
5. Do you get such a strong and uncomfortable need to urinate that you leak urine (even small drops) or wet yourself before reaching the toilet?						
6. Do you have to rush to the bathroom because you get a sudden, strong need to urinate?						

(Catherine et al., 2004)