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THE IMPACT OF DELIVERY MODE AND PARITY ON DEVELOPMENT OF PELVIC ORGAN PROLAPSE AND URINARY INCONTINENCE

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Introduction

- Age, vaginal delivery, obesity, connective tissue disorders neurologic disease are all defined as risk factors.

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Introduction

- Vaginal delivery seems the most important risk factor for pelvic floor disorders but this comes from observational studies.
- There is no randomized-controlled trials that compare parity and mode of delivery.

Objective

- To investigate the impact of parity and mode of delivery on the development of pelvic organ prolapse and stress urinary incontinence.

Material and methods

- The study was conducted at Ankara Zekai Tahir Burak Women' Health Research and Education Hospital
- Retrospective-observational study
- 2 November 2007-31 June 2012
- 1500 patients who underwent surgery for POP and stress urinary incontinence
- **POP:** POP-Q quantification system
- **Stress incontinence:** History, examination, Q-type test

Exclusion criteria

- Menopause
- Cigarette smoking
- Chronic obstructive lung disease
- Lumbar disc hernia
- History of POP or incontinence surgery
- Systemic or neurological disease
- Medications leading to incontinence
- History of hysterectomy

Material and methods

Patients were examined in 2 groups:

Group 1: 353 patients who underwent POP surgery compared 129 controls

- Age
- BMI
- History of abdominopelvic surgery
- Obstetric history
- Number of parity
- Mode of delivery

Material and methods

Group 2: 201 patients who underwent anti-incontinence surgery compared to 192 controls

- Age
- BMI
- History of abdominopelvic surgery
- Coexistence of \geq stage 2 POP
- Obstetric history
- Number of parity
- Mode of delivery

Table 1: Multiple impact of parity and mode of delivery on development of prolapse

	OR	95% CI	p
PARITY			
0	Referance	---	---
1	1.10	0.63-1.30	p<0,001
2	1.41	0.71-7.31	p<0,001
3	2.29	1.10-4.78	p<0,001
4	3.18	1.48-3.11	p<0,001
≥5	9.27	5.00-15.00	p<0,001
DELIVERY MODE			
Nulliparity	Referance	---	---
Vaginal	2.08	0.48-9.05	0.328
Cesarean	0.83	0.27-2.60	0.753
Vaginal+Cesarean	1.38	0.54-3.51	0.505

Table 2: Multiple impact of parity and mode of delivery on anti-incontinence surgery

	OR	95% CI	p
PARITY			
0	Referance	---	---
1	1.08	1.01-1.64	p=0.239
2	1.25	1.02-2.54	p=0.012
3	1.09	1.01-1.77	p=0.027
4	1.12	1.01-2.05	p=0.018
≥5	1.07	1.01-1.56	p=0.056
DELIVERY MODE	Referans	---	---
Nulliparity	0.58	0.30-1.14	0.112
Vaginal	1.82	0.51-6.51	0.357
Cesarean	0.69	0.35-1.36	0.284
Vaginal+Cesarean			

Discussion

- In our study patients who underwent POP and anti-incontinence surgery and controls were premenopausal and not obese.
- Age and obesity are more important risk factors in elderly population.

Discussion

- Pelvic floor disorders occur in women who deliver at least one child.
- Also incidence of pelvic floor dysfunction increases as number of parity increases.

Hendrix SL. Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity. *American Journal of Obstetrics and Gynecology*. 2002.

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Kudish BI. Risk factors for prolapse development in white, black, and Hispanic women. *Female Pelvic Medicine & Reconstructive Surgery*. 2011.

Discussion

- In our study parity was high in patients with prolapse and anti-incontinence surgery.
- Most patients had 2 parity (%41.4)
- Women having ≥ 5 parity is less (%2.5) since number of these patients were small.

Discussion

- In contrast, in some studies relationship between parity and development of pelvic floor dysfunction could not be established.

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Discussion

- POP had been found more prevalent in patients with vaginal delivery*.
- It is not obvious that cesarean section is protective against pelvic floor disorders.
- Cesarean section itself, increases risk of pelvic floor dysfunction#.

*Hendrix SL. Pelvic organ prolapse in the Women's Health Initiative: gravity and gravidity. American Journal of Obstetrics and Gynecology. 2002.

*Gyhagen M. Prevalence and risk factors for pelvic organ prolapse 20 years after childbirth: a national cohort study in singleton primiparae after vaginal or caesarean delivery. BJOG : An International Journal of Obstetrics and Gynaecology. 2013.

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Discussion

ACOG (2013) does not recommend cesarean section in order to prevent pelvic floor dysfunction in the absence of any obstetric indication.

Discussion

- It is estimated that 7-12 cesarean section must be done to prevent only one woman from pelvic floor dysfunction.

Gyhagen M. Prevalence and risk factors for pelvic organ prolapse 20 years after childbirth: a national cohort study in singleton primiparae after vaginal or caesarean delivery. BJOG : An International Journal of Obstetrics and Gynaecology. 2013.

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Gyhagen M. The prevalence of urinary incontinence 20 years after childbirth: a national cohort study in singleton primiparae after vaginal or caesarean delivery. BJOG : An International Journal of Obstetrics and Gynaecology. 2013.

Limitations of study

- Cesarean section: active or passive phase?
- Cesarean indications
- Presentations
- Positions
- IUGR
- Preterm delivery
- Interval between deliveries
- Maternal age at first and last delivery
- Birthweights
- Gestational weeks

Limitations of study

- Epidural analgesia
- Diet
- Operative vaginal delivery
- Macrosomia
- Duration of 2nd stage of labor
- Episiotomy
- Perineal lacerations
- Family history
- Chronic constipation



Limitation of parity!!!!



Thank you....