

INCIDENCE OF EARLY POSTPARTUM URINARY RETENTION IN PRIMIPARAE: COMPARISON BETWEEN VAGINAL DELIVERY AND CESAREAN SECTION

Hypothesis / aims of study

To compare the incidence of early postpartum urinary retention (PUR) in primiparae women who had normal vaginal delivery to those who delivered by elective caesarean section and to identify the risk factors?

Study design, materials and methods

A prospective cohort study of primiparae women in their early postpartum period. Subjects were recruited, after giving informed consent, in a teaching hospital during 6-month period and were divided into two groups: normal vaginal delivery group (NVD) and primary elective caesarean section group (CS). All Women with high post-void residual bladder volume (≥ 150 ml) prior to delivery, who had instrumental delivery, or who required bladder catheterization for longer than 24hours were excluded. Following the first 24 hours from delivery and on day of discharge home, all recruited patients had Uroflowmetry and measurement of post-void residual bladder (PVR) volume using automated bladder scanner (BladderScan BVI 9400). Postpartum urinary retention (PUR) was diagnosed if PVR was ≥ 150 ml and maximum flow rate of ≤ 15 ml/sec with or without symptoms of difficult micturition.

Results

128 primiparae women were recruited; 104 (81%) had NVD and 24 (19%) had primary elective CS. Time from delivery to assessment of voiding parameters was similar between the two groups (42 ± 10 hours vs. 48 ± 8 hours, $p= 0.21$). In the NVD group, 19 women (18.3%) met the diagnosis of PUR, compared to only 2 women (8.3%) in the CS group but the incidence was not statistically different ($p= 0.24$). No woman had complete retention of urine. Age, body mass index, baby birth weights, rates of diabetes or current urinary tract infections were not different between the two groups. Within NVD group, postpartum women who had prolonged second stage of labour (47minutes vs. 31 minutes, $p= 0.05$), those with any vaginal tear (46% vs. 14%, $p< 0.05$) or who had Epidural analgesia (45% vs. 14%, $p<0.05$) experienced significantly higher incidence of PUR.

Interpretation of results

Women who had normal vaginal delivery have no different risk of PUR than those delivered by caesarean section. Longer second stage of labour, any vaginal tear and use of Epidural analgesia put primiparae women at increased risk of PUR.

Concluding message

Normal vaginal delivery does not increase the risk of early postpartum urinary retention and should not be considered as a risk factor per se.

Table: Characteristics of participants.

Characteristics	Vaginal Delivery (n = 104)	Caesarean Section (n= 24)	P value
Age (years)	24	25	NS
Body Mass Index	30	31	NS
Epidural / Spinal (%)	21 (20%)	11 (46%)	NS
Baby Birth weight (gm)	3092	2543	NS
1 st Voided Volume (ml)	218	220	NS

References

1. Saultz JW, Toffler WL, Shackles JY. Postpartum urinary retention. J Am Board Fam Pract 1991; 4(5): 3414.
2. Liang CC, Chang SD, Chang YL, Chen SH, Chueh HY, Cheng PJ. Postpartum urinary retention after cesarean delivery. International Journal of Gynecology & Obstetrics 2007; 99: 229-232.
3. Yip SK, Brieger G, Hin LY, Chung T. Urinary retention in the post-partum period: the relationship between obstetric factors and the post-partum post-void residual bladder volume. Acta Obstet Gynecol Scand 1997; 76: 667-72.

Disclosures

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