18.8 A study of the effect of duration of labour on post-partum post-void residual bladder volume

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In order to investigate the possibility of protracted labour as a risk factor to post-partum urinary retention and to study the relation between duration of labour and post-partum day 1 post-void residual bladder volume, the post-partum post-void residual bladder volume of a group of patients was studied using ultrasonography. Out of 707 patients during a 2-month study period, a homogenous group of 164 patients with possible risk factors to post-partum urinary retention being controlled were studied. The homogenous group's post-partum day 1 post-void residual bladder volume were assessed by ultrasonography and analyzed with respect to the duration of labour. The incidence of post-partum urinary retention (≥ 150 ml) was 11% in this homogenous group. Labour duration of longer than or equal to 800 minutes was associated with a higher incidence of post-partum urinary retention (χ^2 test, $p<0.05$). Moreover there is a direct relation between duration of labour and post-partum post-void residual bladder volume, which is described by a quadratic regression curve (Figure 1). Protracted labour longer than or equal to 800 minutes is a risk factor to post-partum urinary retention. The post-partum post-void residual bladder volume is directly related to the duration of labour.

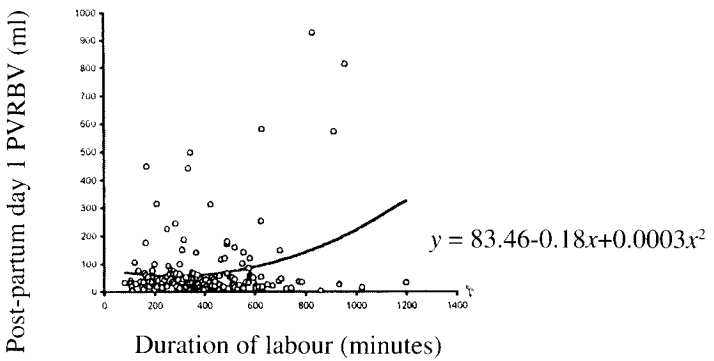

Figure 1. Quadratic regression curve describing the relation between duration of labour and postpartum day 1 postvoid residual bladder volume

18.9 Placental weight to birthweight ratio is not increased in small- and large-for-gestational age infants in gestational impaired glucose tolerance

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Previous studies in our department showed that the placental weight to birthweight ratio (placental ratio) was increased in pregnancies complicated by gestational impaired glucose tolerance (GIGT) and pregnancies resulting in idiopathic small-for-gestational age (SGA) babies. However, it is unclear about the relationship between placental ratio and birthweight percentile ranking in GIGT pregnancies. Hence, a retrospective review was performed to determine if the placental weight to birthweight ratio is increased in the small- or large-for-gestational age infants in such pregnancies. Five hundred and sixty-eight consecutive singleton pregnancies complicated by GIGT controlled with diet and who delivered within a 15-months period were categorized by the infant birthweight percentile into 3 groups i.e. SGA(<l0th percentile), appropriate-for-gestational age (AGA, l0th to 90th percentile) and large-for-gestational age (LGA,>90th percentile), and maternal anthropometric data, glycaemic status, placental weight and ratio were compared among the three groups.

The infant body mass index and placental weight showed a significantly increasing trend from the small-for-gestational age to the large-for-gestational age groups, but there was no significant difference in the placental ratio, values of the oral glucose tolerance test, or haemoglobin A_{1c} among the 3 groups. On the other hand, the maternal body mass index before pregnancy and at delivery were significantly higher in the large-for-gestational age group. The placental weight, but not the ratio, was significantly correlated with the maternal body mass index before pregnancy and at the delivery ($p<0.001$).
Maternal characteristics, infant BMI, placental weight and ratio in relation to infant birthweight percentile ranking:

	SCA gp(n=39)	AGA gp(n=419)	LGA gp(n=110)
matemal age (yrs)	28.9	31.7*	31.5†
matemal BMI			
pre-pregnant	21.6	22.7	23.8*
at delivery	25.6	27.7*	29.1
infant BMI	11.2	12.5*	14.4
placenta weight (gm)	477	611*	723
ratio	0.188	0.195	0.191

Duncan's multiple range test
* $p<0.05$ compared with SGA gp †$p<0.05$ compared with SGA and AGA gps

The results indicate that the placenta is not disproportionately bigger in either the small- or large-for-gestation age infants, whereas maternal obesity appeared to he the major determinant of birthbright percentile ranking in pregnancies with GIGT.