Serial intrapartum transperineal ultrasound findings of 59 patients in active phase of labour

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Objective

This study aims at detecting the ultrasound parameters in which labour was arrested using transperineal ultrasound scan.

Methods

Patients in labour are prospectively recruited for the study when cervix was 2cm dilated and or more and completely effaced. Ultrasound scan was performed by single operator using GE Voluson i ultrasound machine. 3D volume was obtained by a single operator. Serial ultrasound scans were performed every 1-2 hours till delivery. The angle of progression and head progression distance were obtained according to methods previously described in the literature. The final mode of delivery was blinded to the operator when the data was processed to avoid bias. Written consent was obtained from each patient and ethics approval was obtained for the study.

Results

Altogether 59 patients were recruited, 9 of them (15. 3%) required emergency caesarean section. Among those who required emergency caesarean section, 8 of them were due to non-progressive labour and one of them had a diagnosis of suspected fetal distress. 42 patients (71. 2%) had normal vaginal delivery, 8 patients (13. 6%) had instrumental delivery. Among patients who had a caesarean section for a diagnosis of non-progressive labour, the mean of maximum head progression distance that can be attained (3. 10cm, SD 1. 00cm) was significantly lower than patients who eventually achieved vaginal delivery (5. 44cm, SD 1. 58cm), p<0. 001. Among patients who had a caesarean section for a diagnosis of non-progressive labour, the mean of maximum angle of progression that can be obtained (123. 3°, SD 12. 0°) were significantly lower than patients who eventually achieved vaginal delivery (148. 9°, SD 17. 3°). All patients who attained a head progression distance of 4. 70cm eventually delivered vaginally, all patients who attained an angle of progression of more than 141. 8° eventually delivered vaginally.

Conclusion

Intrapartum ultrasound scan can reliably predict successful vaginal delivery.