Randomized trial of anaesthetic interventions in external cephalic version for breech presentation

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Objective
Successful external cephalic version (ECV) for breech presenting fetus reduces the need for Caesarean section (CS). We aimed to compare the success rate of ECV with either spinal anaesthesia (SA) or i. v. analgesia using remifentanil.

Methods
In a double-phased, stratified randomized blinded controlled study we compared the success rates of ECV, performed under spinal anaesthesia (SA), i. v. analgesia (IVA) using remifentanil or no anaesthetic interventions. In phase I, 189 patients were stratified by parity before randomization to ECV, performed by blinded operators, under SA using either hyperbaric bupivacaine 9 mg with fentanyl 15 µg, i. v. remifentanil infusion 0.1 µg kg min(-1), or Control (no anaesthetic intervention). Operators performing ECV were blinded to the treatment allocation. In phase 2, patients in the Control group in whom the initial ECV failed were further randomized to receive either SA (n=9) or IVA (n=9) for a re-attempt. The primary outcome was the incidence of successful ECV.

Results
The success rate in Phase 1 was greatest using SA [52/63 (83%)], compared with IVA [40/63 (64%)] and Control [40/63 (64%)], (P=0.027). Median [IQR] pain scores on a visual analogue scale (range 0-100), were 0 [0-0] with SA, 35 [0-60] with IVA and 50 [30-75] in the Control group (P<0.001). Median [IQR] VAS sedation scores were highest with IVA [75 [50-80]], followed by SA, [0 [0-50]] and Control [0 [0-0]]. In phase 2, 7/9 (78%) of ECV re-attempts were successful with SA, whereas all re-attempts using IVA failed (P=0.0007). The incidence of fetal bradycardia necessitating emergency CS within 30 min, was similar among groups; 1.6% (1/63) in the SA and IVA groups and 3.2% (2/63) in the Control group.

Conclusion
SA increased the success rate and reduced pain for both primary and re-attempts of ECV, whereas IVA using remifentanil infusion only reduced the pain. There was no significant increase in the incidence of fetal bradycardia or emergency CS, with ECV performed under anaesthetic interventions. Relaxation of the abdominal muscles from SA appears to underlie the improved outcomes for ECV.