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Re: Oxytocin induction of labour: a comparison of two protocols

Different protocols of oxytocin infusion have been introduced in the literature for labour induction.[1–3] High-dose short-interval infusion protocols (in which starting doses are increased significantly at short intervals) accelerate labour but may also be associated with increased potential risks of maternal and fetal complications such as uterine hyperstimulation and fetal distress. Extensive comparative studies on low and high-dose protocols are in the literature, none of which have implemented a long-interval for the high-dose protocol.[2,3] Inspired by the fact that oxytocin reaches a steady plasma level after about 40 min,[4] we developed a new protocol of a high-dose long-interval type and compared its benefits and complications with those of a traditional protocol in our hospital.

We randomly allocated 110 consecutive post-term pregnant women with a Bishop's score = 4 and no contraindications for oxytocin induction of labour into two groups, which are similar in mean age, parity and gestational age. Group A (50 cases; maternal age 21.48 ± 3.2 years; parity 0.48 ± 0.1; gestational age 40.9 ± 0.6 weeks) underwent the traditional protocol (2.5 mU/min for start and increasing steps of 2.5 mU/min by 15-min intervals up to a maximum dose of 40 mU/min), while group B (60 cases; maternal age 24.06 ± 4.4 years; parity 0.18 ± 5.4; 40.4 ± 1.3 weeks) received the new protocol (5 mU/min for start and increasing steps of 5 mU/min by 45 min intervals up to a maximum dose of 40 mU/min). Efficacy and complications of the protocols were compared. P value < 0.05 was considered statistically significant.

All women had given their written consent to participate in the study. The performance of the study was consistent with the ethical guidelines of the Iran University of Medical Sciences.

The results are shown in Table 1. By using the new protocol and application of 45 min intervals, which is the time required by oxytocin to reach a steady plasma level and state, we accelerated the labour more than the traditional protocol. Moreover, the new protocol did not increase the risk of fetal and maternal complications.

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Table 1 Efficacy and complications of the high-dose short-interval infusion (traditional) protocol and high-dose long-interval (new) protocol

	Group A (n = 50)	Group B (n = 60)	P value
Caesarean section	13 (26%)	11 (20.7%)	N.S.
Fetal distress	4 (30.8%)	3 (27.2%)	N.S.
Uterine hyperstimulation	6 (12%)	6 (10%)	N.S.
Mean time to active phase (SD)	519 (214) min	308 (152) min	< 0.001
Mean duration of active phase (SD)	255 (216) min	167 (82) min	< 0.01
Mean total time to delivery (SD)	781 (337) min	463 (192) min	< 0.001

Group A received oxytocin via the traditional protocol; group B received oxytocin via the new protocol.
N.S., non-significant; SD, standard deviation.

