



EFFECT OF INTRAPARTUM PETHIDINE ON THE NEONATAL OUTCOME: IS IT DURATION RELATED?



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OBJECTIVES

Pethidine is one of the synthetic opioids, which is commonly used for labour pain relief because of its ease of administration, cheap and readily available.

To study the effect of pethidine on the intrapartum fetal heart rate (FHR) pattern and to assess the neonatal outcome with regards to the interval between pethidine administration to delivery of the fetus.

METHODS

This is a prospective observational study done on 73 healthy consented women with singleton pregnancy at term. All fetus were normal, vertex presentation with reactive FHR tracing before pethidine administration. FHR recording were performed for 40 minutes prior to and one hour post pethidine. Cervical dilatation of all patients ≤ 4 cm at time of pethidine administration. Intramuscular pethidine 1mg/kg was given as an intrapartum analgesia. The study sample was divided into two groups, first group those women who delivered within 4 hours and second group for those women who delivered more than 4 hours after the pethidine administration. The data were analysed by SPSS 17.0.

RESULTS

The mean age of the recruited patients is 28.15 ± 6.15 years and mean gestational age of 39.14 ± 1.094 weeks. The mean duration from pethidine administration to delivery is 296.48 ± 173.65 minutes (4 hours and 56 minutes). Four (5.5%) cases had suspicious CTG one hour post pethidine, one case with absence of acceleration for 45 minutes and three cases with early deceleration lasted for 60 to 90 minutes. Out of 73 patients, 38 babies delivered within 4 hours and 35 delivered after 4 hours of pethidine. All neonates delivered with good Apgar Score (AS), 8 at 1 minute and 9 at 5 minute except one with AS of 5 at 1 min and 7 at 5 min which delivered more than 4 hours after pethidine. Sixteen (21.9%) cases were admitted to the Neonatal Intensive Care Unit (NICU). Eleven (68.75% out of total admission) cases were admitted due to neonatal sedation from the delivery group less than 4 hours after pethidine follow the local centre protocol. Five (31.25% out of total admission) cases from the delivery group more than 4 hours, four cases with a diagnosis of transient tachypnea of newborn and one secondary to meconium aspiration syndrome (MAS). All discharge to mother after 24 hours, non required ventilation apart from the one with MAS which required ventilation for one day and longer admission. Despite of the higher number of those required admission among the women who delivered within 4 hours group, it was not statistically significant.

Characteristic	Mean value
Age	28.15 ± 6.15
Gestational age	39.14 ± 1.094
Gravida	2.19 ± 1.524
Parity	1.00 ± 1.323
Duration from pethidine administration to delivery	296.48 ± 173.65

Table 1: Demographic data

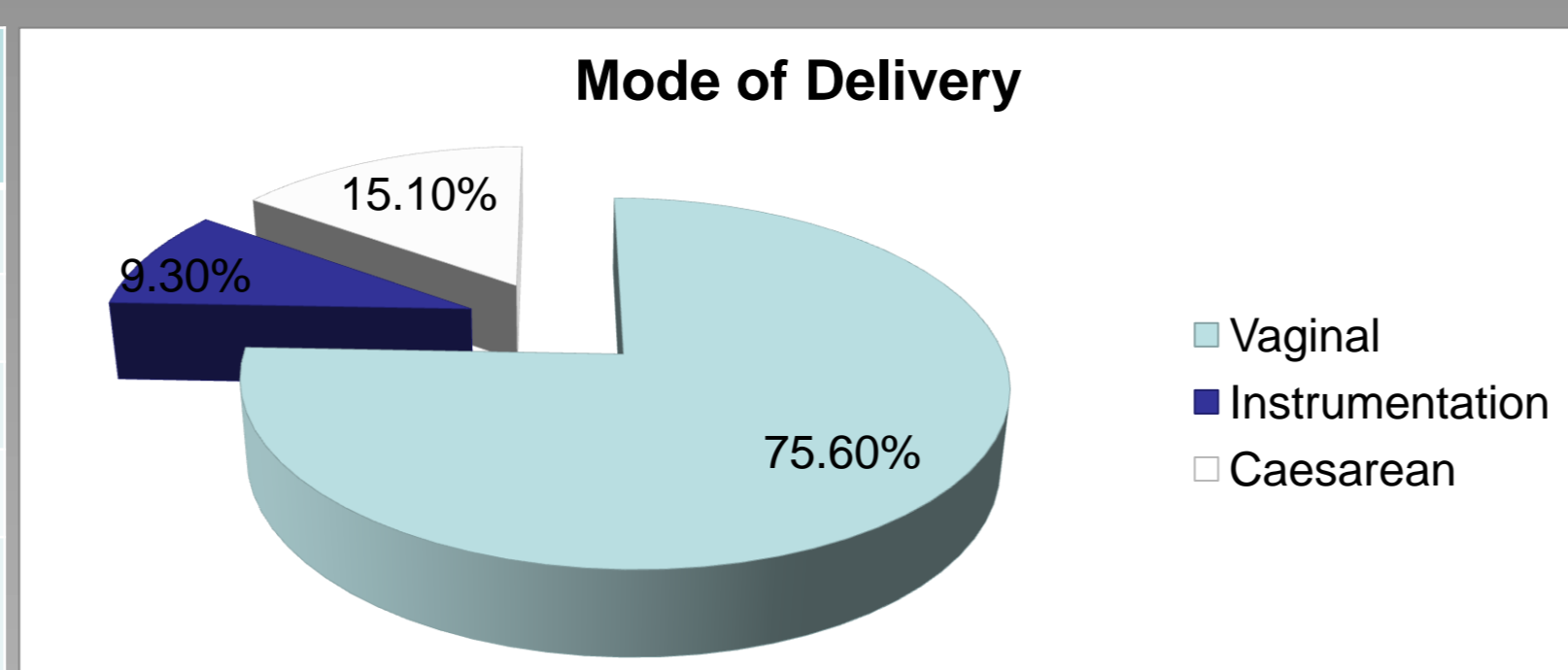


Figure 2: Mode of Delivery

Total no of cases	Delivery interval from pethidine administration	
	<4 hours	≥ 4 hours
73	38	35

Table 2: Number of cases based on delivery interval from pethidine administration

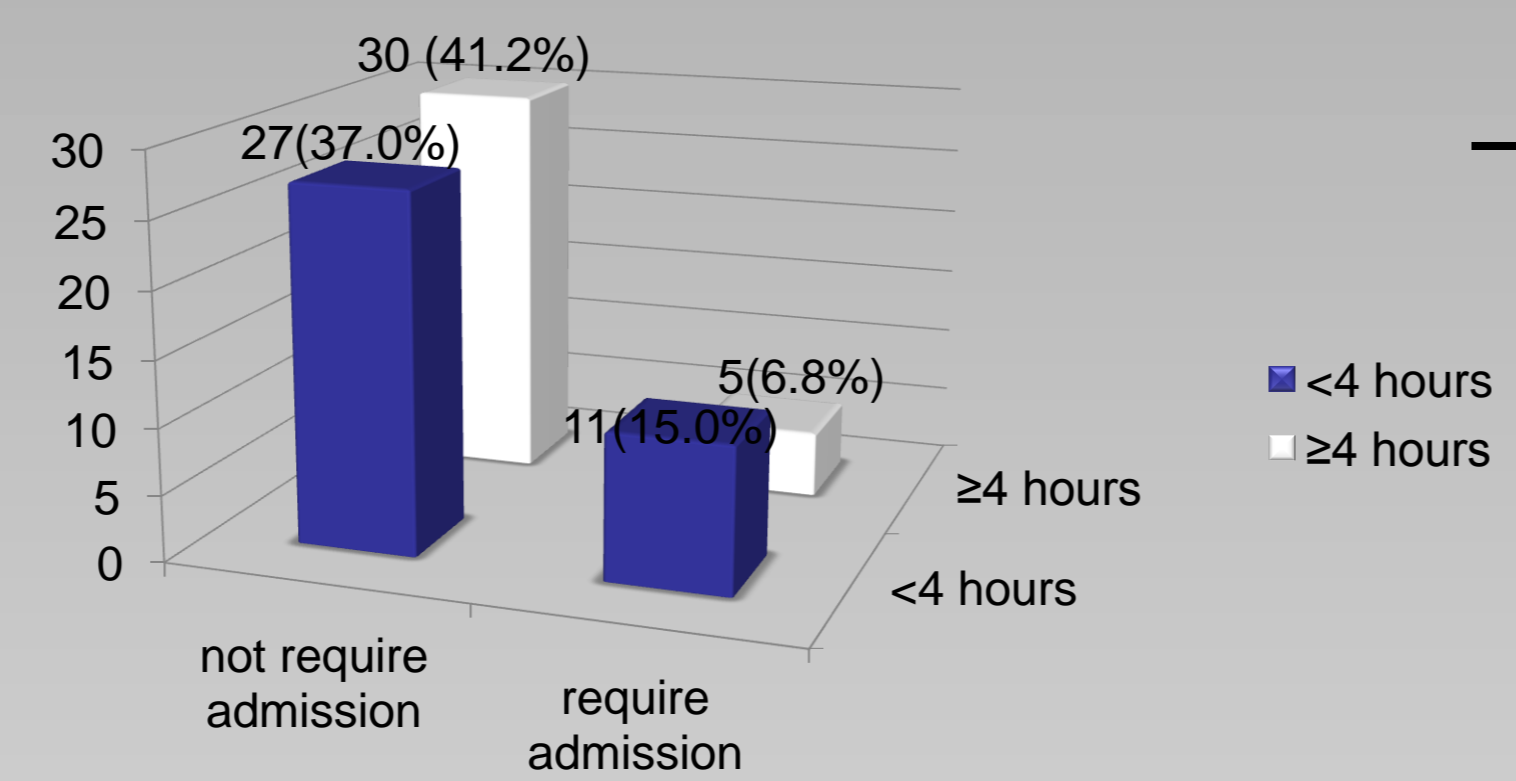


Figure 3: NICU admission out of total number of cases

	<4 hours	≥ 4 hours	Total number of admission
Required NICU admission	11 (68.75%)	5 (31.25%)	16

Table 3: NICU admission

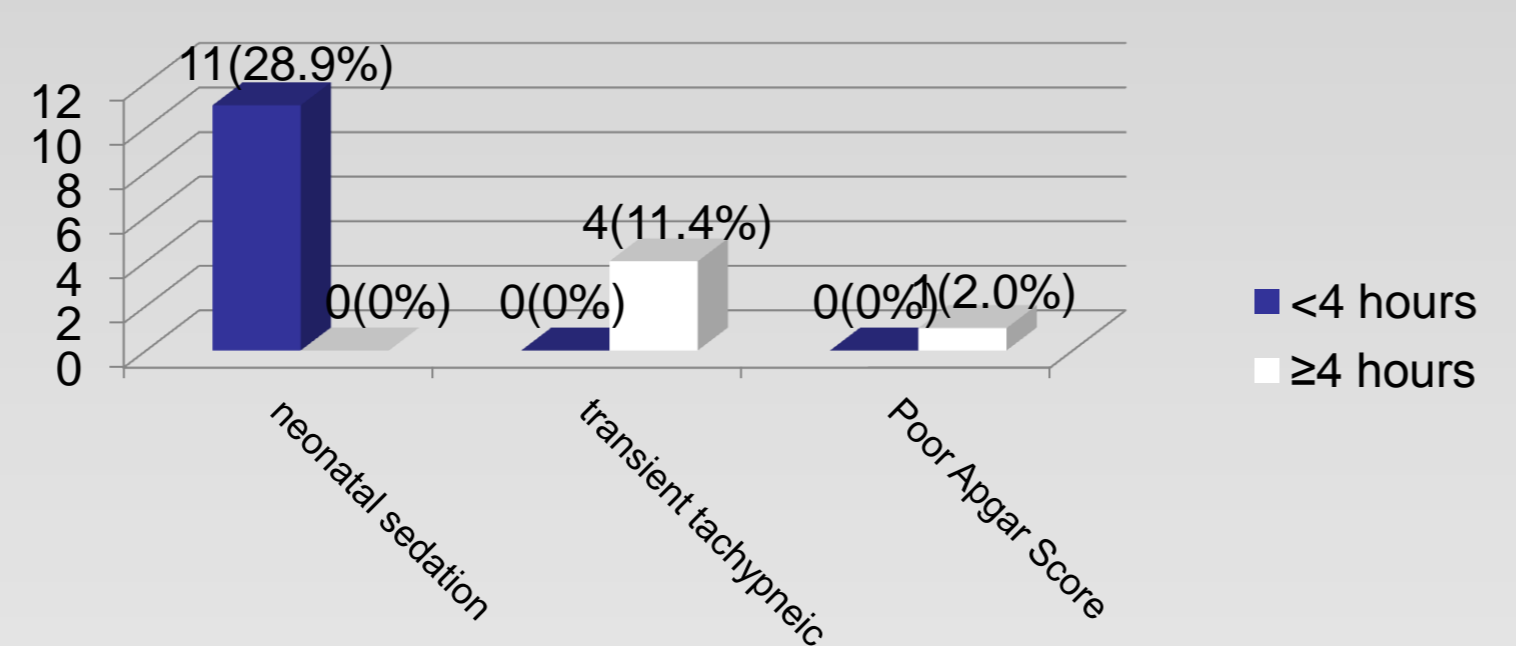


Figure 4: Neonatal outcomes within the study groups

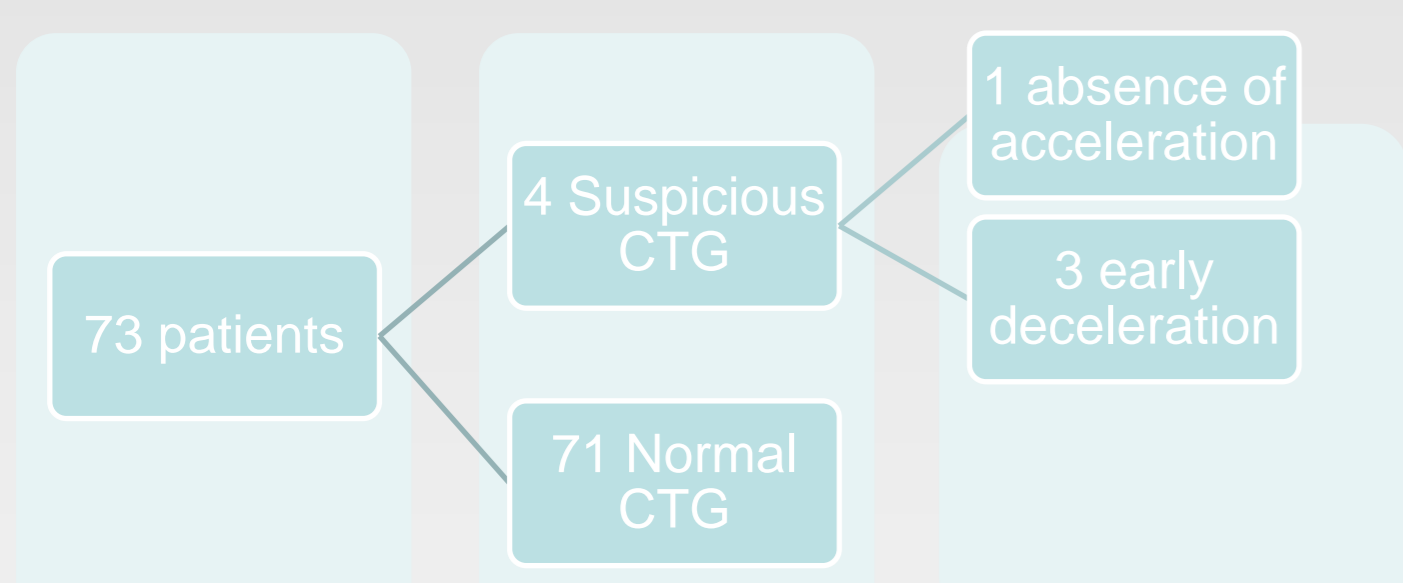


Figure 1: Intrapartum Fetal Heart Rate pattern

CONCLUSIONS

Pethidine can be used as an intrapartum analgesia which is safe, easily available without major effect on fetal heart rate pattern and neonatal outcome even if administered in advance stage of labour.

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