Johann Motsch MD
Eike Martin MD
Heidelberg, Germany

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TABLE Individual pre- and postoperative number of events

Patient	Type of Anesthesia	number of events per type											
		pre 0-12			post 0-12			post 13-24			post 25-48		
		a	b	c	a	b	c	a	b	c	a	b	c
1	uSA	-	-	6	-	1	2	-	-	4	-	-	5
2	uSA	-	-	-	-	-	-	-	-	-	-	-	-
3	uSA	-	1	3	1	-	3	-	3	-	-	-	5
4	uSA	-	-	-	-	-	-	-	-	-	-	-	-
5	uSA	4	6	2	1	2	1	2	3	-	2	-	-
6	uSA	-	3	-	1	1	1	-	8	7	-	1	-
7	uSA	-	-	-	1	2	2	-	-	1	2	6	4
8	uSA	-	-	-	-	-	-	-	-	-	-	-	-
9	GA	-	-	1	-	3	19	-	1	-	-	-	-
10	GA	-	-	2	26	36	7	1	1	-	2	-	-
11	GA	-	-	-	-	1	-	-	1	1	-	-	-
12	GA	-	1	4	4	9	27	2	5	8	1	3	11
13	GA	2	2	1	-	1	3	-	-	-	-	-	1
14	GA	-	-	-	-	1	1	6	9	9	-	-	-
15	GA	-	1	3	-	26	-	-	16	-	-	8	-
16	GA	-	1	-	-	7	1	-	1	-	-	-	-
17	GA	-	-	-	1	1	1	-	-	-	1	2	6

uSA: unsupplemented spinal anesthesia, GA: general anesthesia; a: worrying apnoea (longer than 15s or accompanied by bradycardia), b: unworring apnoea (apnoea without bradycardia lasting 10-15s), c: bradycardia (heart rate < 100 beats-min for infants <40 weeks and <80 beats-min for older infants).

Halothane for supplementation of general anesthesia during Cesarean section

To the Editor:

Our previous report has shown, in parturients undergoing Cesarean section, that supplementation of 50%

N₂O:O₂ during the induction-delivery (I-D) period with 100 mg tramadol *iv* can result in a lower umbilical vein (UV) P_O₂ and a higher UV PCO₂ than when anesthesia is supplemented by 100 µg fentanyl.¹

The present report utilizes halothane 0.5% instead of opioids to supplement anesthesia during the I-D period in 20 parturients undergoing elective Cesarean section; the UV blood gases were compared with those obtained in our previous report when tramadol or fentanyl was used for supplementation.

After preoxygenation, rapid-sequence anesthesia was induced with 3 mg·kg⁻¹ thiopental and 1.5 mg·kg⁻¹ succinylcholine. Following tracheal intubation, anesthesia was maintained during the I-D period with 50% N₂O:O₂ supplemented by halothane 0.5%. At delivery, the Apgar scores were ≥ 7 in 18/20 of the newborns at one minute and 20/20 at five minutes. The UV blood samples obtained from a double-clamped segment of umbilical cord showed a higher UV P_O₂ than in our previous report when tramadol or fentanyl was used for supplementation. Also, the UV PCO₂ was lower and the UV pH was higher in the halothane group than in the tramadol group (Table). No patient had any intra operative recall, or complained of post operative nausea and/or vomiting.

In pregnant ewes, inhalation of halothane 0.5% combined with N₂O 50% and oxygen results in a 22% increase in uterine blood flow.² The results support our clinical findings that low concentrations of halothane for supplementation of N₂O:O₂ during the I-D period may not affect uteroplacental circulation adversely, and can even improve fetal oxygenation.

Anis Baraka MD FRCA (HON)

Sahar Siddik MD FRCA

Boutros Assaf MD

Beirut, Lebanon

TABLE Umbilical vein P_O₂, PCO₂, pH, HCO₃⁻¹ and base deficit (BD) in the halothane group of parturients, as compared with values achieved in our previous report where fentanyl or tramadol was used.¹

* *P* < 0.05 from the corresponding halothane values.

	Umbilical Vein Blood Gases				
	P _O ₂ (mmHg)	PCO ₂ (mmHg)	pH	HCO ₃ ⁻¹	BD
Halothane group	39 ± 7	43 ± 5	7.35 ± 0.05	24 ± 1.5	-1.5 ± 2
Fentanyl group	34 ± 5*	45 ± 4	7.34 ± 0.02	24.5 ± 1.8	-1.2 ± 1.8
Tramadol group	24 ± 6*	50 ± 5*	7.31 ± 0.03*	25 ± 1.4	-0.72 ± 1.3

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