

IMPACT OF INTRATHECAL CLONIDINE ON LABOUR PROGRESSION AND MATERNAL FOETAL WELLBEING: OUR EXPERIENCE

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Background: Many studies demonstrated excellent analgesic action of intrathecal clonidine, which acts in synergy with local anaesthetics and opioids. However, the high number of alpha₂-adrenergic receptors on the myometrium makes clonidine an adjuvant potentially able to interact with the labour dynamics. The purpose of this study was to evaluate the impact of intrathecal clonidine addition in combined spinal-epidural analgesia on labour progression, local anaesthetic consumption and maternal-foetal well-being.

Results and Discussion: The study included in S group 57 parturients and in group C 50 parturients. Data relating to duration of I,II stage and the time from admission to delivery are shown in Table 1. The foetal descent curve of the group C has a more linear trend compared with the control curve (Figure 1). The average consumption of local anaesthetic from the beginning of analgesia until the expulsive phase in the S group (group C: 35.4 mg, S group: 8.51 mg, p 0.029) was lower in a statistically significant manner.

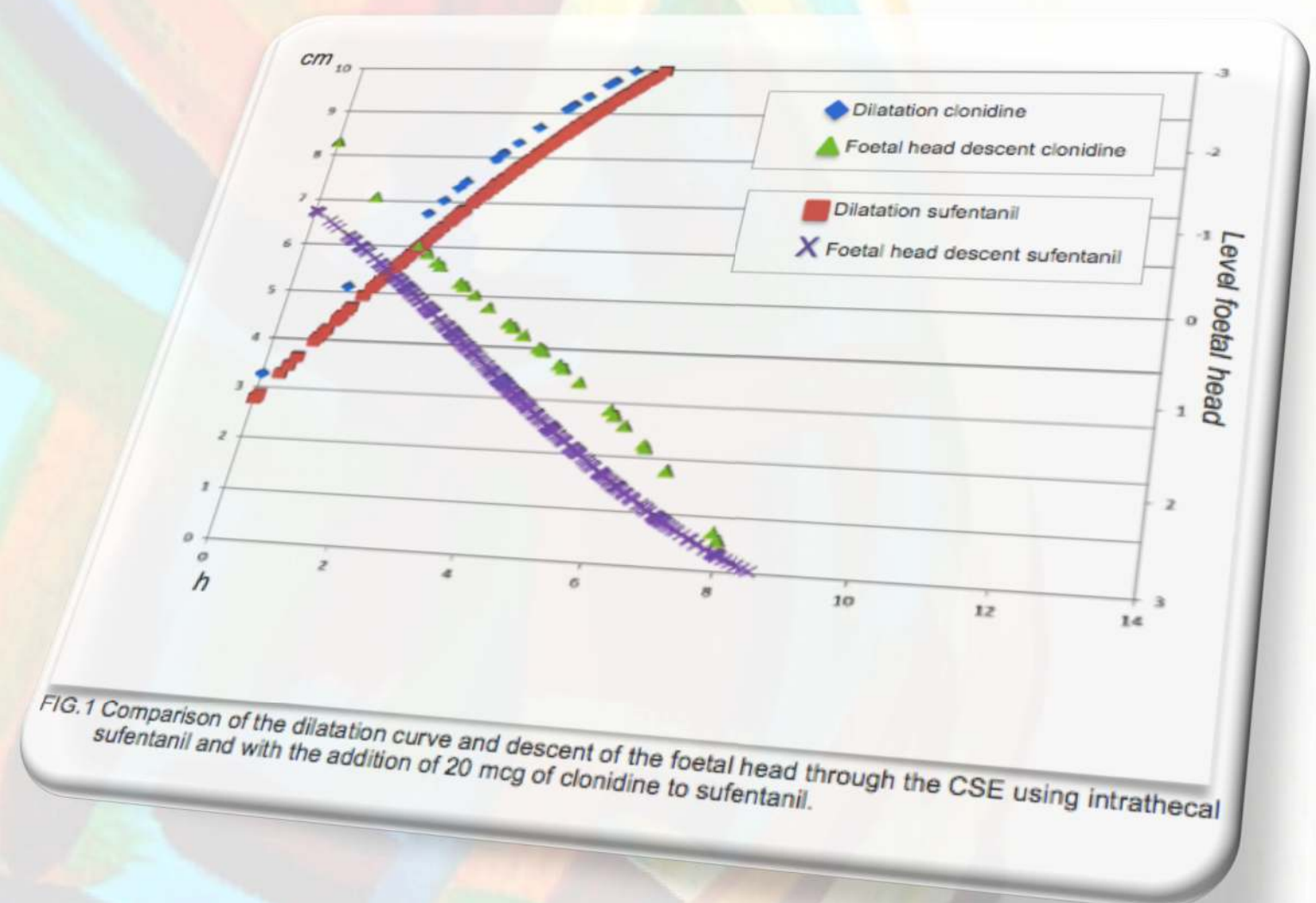
Tab 1: Duration of the first and second stage and time from admission to delivery in the sample analyzed: differences between two groups.

	Clonidine	Sufentanil	P
I stadium (h)	4,01 (1,9)	5,49 (1,43)	*0,001
II stadium (h)	1,33 (0,89)	1,29 (0,78)	0,0872
Time from admission to childbirth (h)	5,33 (2,16)	6,78 (1,73)	*0,006

All data are expressed as mean (SD).

*Significant.

Materials and Methods: From October 2014 to March 2015 a case control study was conducted: 107 ASA I nulliparous parturients, between 18-45 years old, singleton were enrolled. Inclusion criteria were: BMI < 30, gestational age ≥ 37 weeks, vertex foetus, cervical dilation > 2 to < 5 cm, foetal presenting part between -2 to -1. Parturients were assigned randomly into two groups: Group C (intrathecal 2 mcg Sufentanil + 20 mcg clonidine) and Group S (intrathecal 2 mcg sufentanil). Data concerning duration of the I and II stage and the time from admission to delivery were recorded. The U-test was used to compare the cervical dilatation and the duration of the second stage, a polynomial equation to create the curves of the cervical dilatation and foetal presenting part. A polynomial equation for the time of the second order was found suitable for cervical dilatation and one for the third-order time for foetal presenting part. A P < 0.05 was considered significant.



Conclusions: Reduction of first stage duration respect to the control group suggests a clonidine positive interaction with the myometrial dynamic. The curve obtained from the analysis of cervical dilatation and descent of foetal presenting part shows that intrathecal clonidine may be characterized by an its specific pattern of labour progression. Relating to its analgesic effect, clonidine confirms excellent analgesia in labour from the beginning, with no increase in side effects.

¹ Labbene II, Gharsallah H, Abderrahman A, Belhadj Amor M, Trabelsi W, Hajje Z, Ferjani M. [Effects of 15 mcg intrathecal clonidine added to bupivacaine and sufentanil for labor analgesia]. *Tunis Med.* 2011 Nov;89(11):853-9.

² Chabot-Doré AJI, Schuster DJ, Stone LS, Wilcox GL. Analgesic synergy between opioid and α₂-adrenoceptors. *Br J Pharmacol.* 2015 Jan;172(2):388-402. doi: 10.1111/bph.12695. Epub 2014 Jul 1.