Pain management during first-trimester surgical abortion under local anaesthesia.

PARACERVICAL BLOCK
VS
INTRACERVICAL INJECTION

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FIAPAC, Berlin 2008

Voluntary termination of pregnancy (VTOP) in France

- On 17th January 1975 : the VEIL low = legalisation and medicalization.
- A real matter of public health : 210 000 / year.
- **38 % of women will have recourse to VTOP once at least** (Prioux F, 2005).
- Two methods : - medical abortion up to 7 wa (46% in 2006).
  - surgical aspiration (SA) from 7 to 14 wa (54%).

Voluntary termination of pregnancy in France

- **2/3 of first-trimester surgical abortion under general anaesthesia** *(Vilain A., Les IVG en 2006, DREES : études et résultats, Sept 2008).*
- Lille hospital (2006) : 1269 SA, **85%** under local anaesthesia.
- Local anaesthesia : - simplicity
  - ↓ complications and mortality
  - a lower cost
- 2 LA techniques : - ***paracervical block***
  - ***intracervical injection***

=> *No superiority of one technique clearly established.*

Material and methods

- Prospective study in JDF hospital (Lille) between March and June 2007.

- **249** women undergoing suction evacuation up to 12 weeks gestation were randomized into two groups :

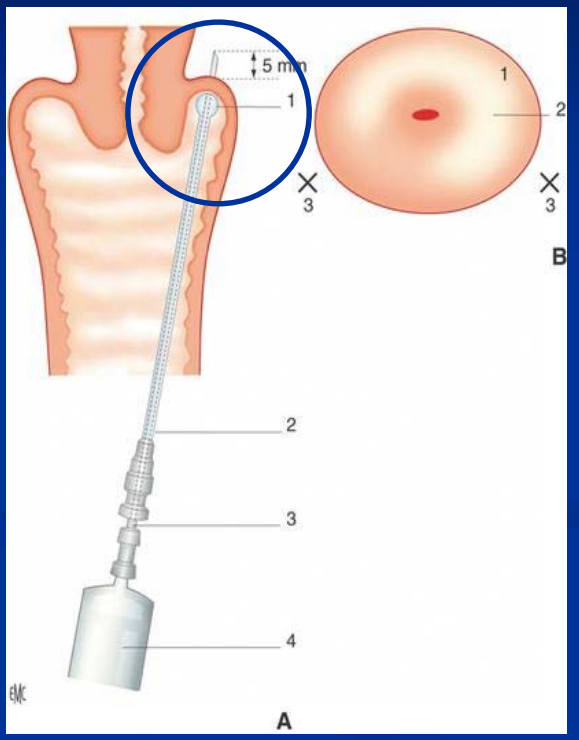
  -> 124 had a paracervical block (PC group)
  -> 125 had an intracervical injection (IC group)

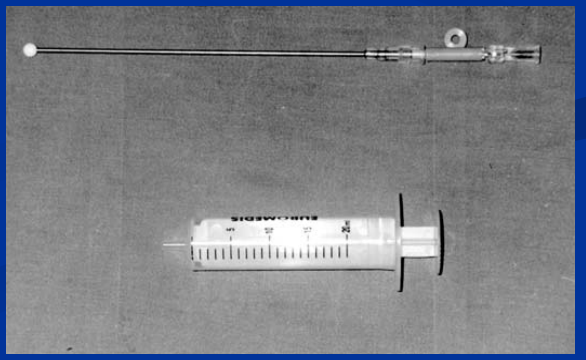
- Cervical priming with misoprostol (mifepristone in addition among nullipara and GA ≥ 12 AW).

- Premedication : atropine + midazolam

Paracervical block

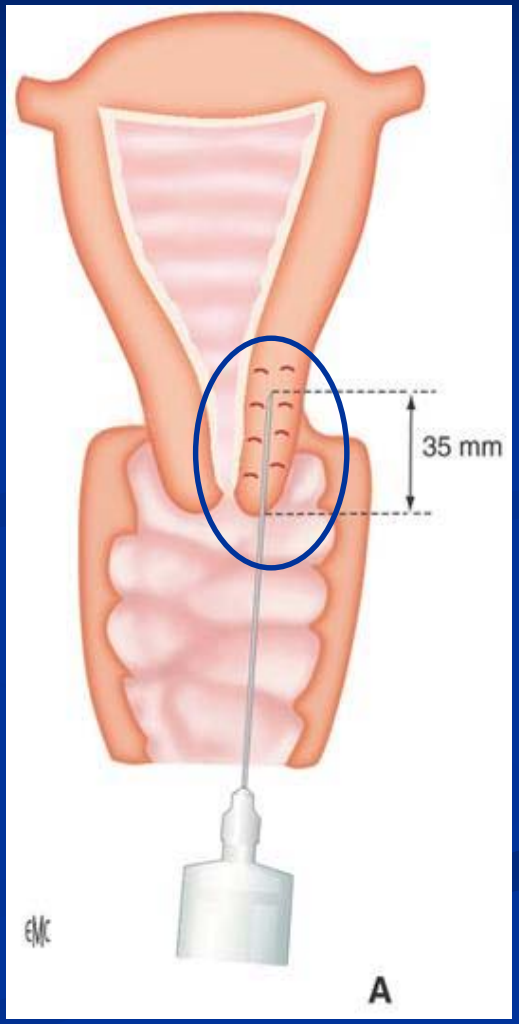
- 20 ml of 1% lidocaine
- Through the reflected vaginal epith
- At the junction of cervix-vagina
- At opposite of uterosacral ligaments
- 2 sites of injection : 4 - 8 o'clock
- Needle with a security tip
- To limit depth of penetration to 5 mm (1/5-inch)
- 3 min delay prior to cervical dilatation





Intracervical injection

- 10 ml of 2 % lidocaine
- Directly through the cervix
- Parallel to the cervical duct
- 2 sites of injection : 4 - 8 o'clock
- Using a 3,5 cm, 21-gauge needle
- At a depth of 35 to 50 mm (1⅓ to 2-inch)
- 3 min delay prior to cervical dilatation



Material and methods

- ***Using a 0-10 cm VAS : pain scores during***
  - Menstrual pain prior to conception
  - Insertion of speculum
  - Local anaesthetic administration
  - Cervical dilatation pain
  - Aspiration pain
  - Pain 1h after the procedure
  - Pain 4h after the procedure
- ***Pain scores of the patients seen by the physician and the nurse just after aspiration.***
- ***The need for post-operative analgesic drugs (paracetamol).***
- ***The satisfaction levels of the patients.***

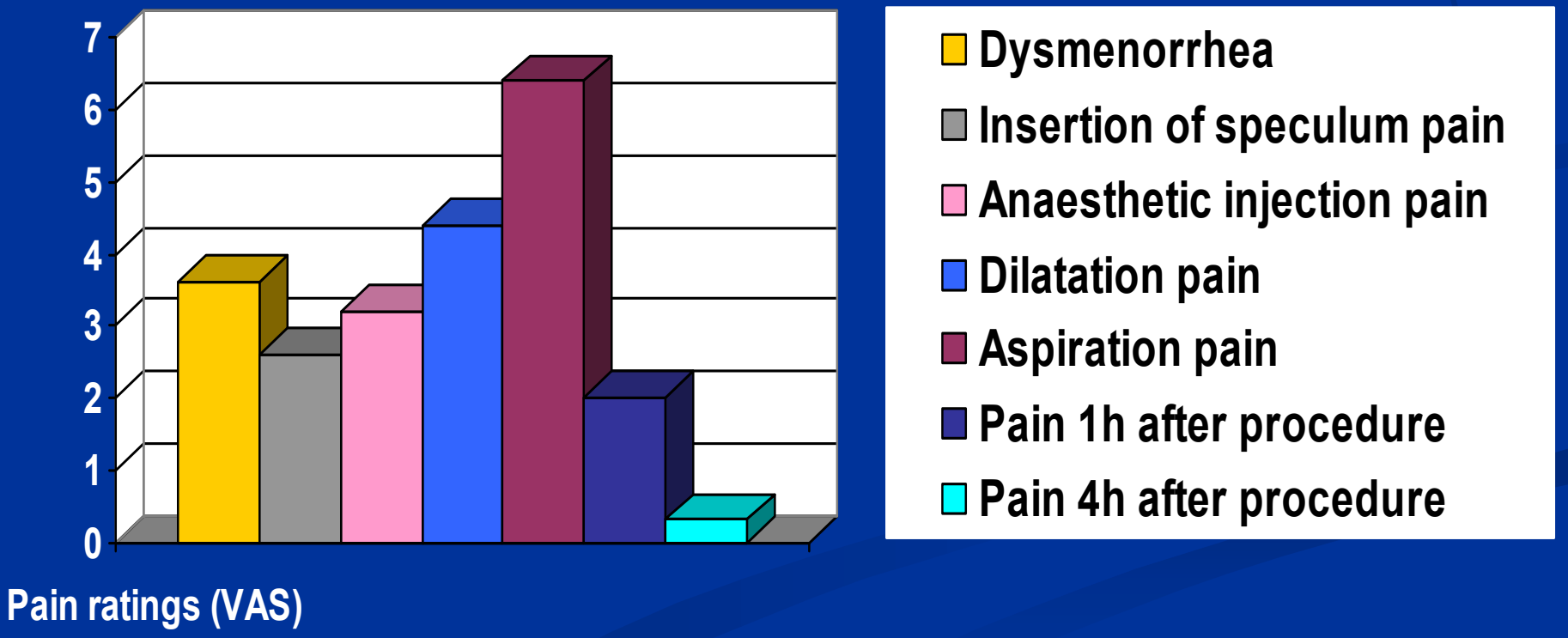
Results

Demographic characteristics

	PC group (n = 124)	IC group (n = 125)	P-value
• **Age in years**	28.7 ± 7.6	27.7 ± 6.9	0.3101
• **BMI**	22.8 ± 4.3	21.8 ± 3.6	**0.0459**
• **Gravidity**	2.9 ± 1.8	2.4 ± 1.7	0.3809
• **Parity**	1.2 ± 1.4	1.1 ± 1.2	0.8439
• **Previous deliveries**	1.1 ± 1.3	1.0 ± 1.2	0.5978
• **Previous miscarriages**	22 (18%)	24 (19%)	0.7669
• **Previous induced abortion**	53 (43%)	40 (32%)	0.3451
• **Gestational age in A. days**	69.4 ± 9.1	71.4 ± 10.6	0.1090
• **Use of mifepristone**	52 (42%)	59 (47%)	0.4034
• **The size of the cannula**	9.1 ± 0.9	9.1 ± 0.9	0.7742

Pain ratings of study participants (n = 249)

- **INJECTION = 3,2** ± 2,3
- **DILATATION = 4,4** ± 2,8
- **ASPIRATION = 6,4** ± 2,7



Comparison of pain scales

Mean pain scores (VAS)	PC group (n = 124)	IC group (n = 125)	p
Dysmenorrhoea	3.9 ± 2.8	3.5 ± 2.5	0.1877
Insertion of an intravenous catheter	2.4 ± 2.4	2.0 ± 1.9	0.2886
Arrival in the operative room	0.8 ± 1.6	0.8 ± 1.7	0.9960
Insertion of speculum pain	2.4 ± 2.4	2.8 ± 2.3	0.1763
Local anaesthetic injection pain	**2.5** ± 2.1	**3.9** ± 2.4	**<0.0001**
Cervical dilatation pain	4.1 ± 2.8	4.8 ± 2.8	*0.0608*
Aspiration pain	6.2 ± 2.8	6.6 ± 2.6	0.3259
Pain scores seen by the physician	3.8 ± 2.4	3.7 ± 2.2	0.6696
Pain scores seen by the nurse	4.4 ± 2.2	4.7 ± 2.0	0.3219
Pain 1 h after the procedure	2.1 ± 2.6	1.8 ± 2.2	0.3683
Pain 4 h after the procedure	0.2 ± 0.7	0.3 ± 1.0	0.3530

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Variables associated with dilatation pain (multivariate analysis)

	p
Group	**0.0178**
Use of mifepristone	**0.0408**
Age	0.9654
Previous miscarriages	0.1990
Previous induced abortion	**0.0001**

	n	Cervical dilatation pain scales
PC group + previous induced abortion	53	5.3 ± 2.6
PC group + no previous induced abortion	71	3.2 ± 2.6
IC group + previous induced abortion	40	5.4 ± 2.8
IC group + no previous induced abortion	85	4.5 ± 2.8

Need for post-operative analgesics

Study participants (n = 245)	PC group (n = 122)	IC group (n = 123)	p
178 (73%)	81 (66%)	97 (79%)	0,0286

When an intracervical injection is performed, it increases nearly twice the probability to have post-operative analgesics compared to paracervical block (OR = 1,879 with p = 0,0310).

Results

Satisfaction levels

No significant differences in satisfaction levels between the two groups. No patients identified themselves as somewhat dissatisfied or very dissatisfied.

Comments

- Pain scales associated with paracervical block administration were significantly lower than with intracervical injection ($p < 0,0001$).

- Paracervical block was more efficient against cervical dilatation pain than intracervical injection.

- Paracervical block was significantly associated with a lower need for post-operative analgesics ($p < 0,0286$).

=> According to the results of this study, paracervical block should be preferred to intracervical injection for first trimester induced abortion.

Comments

- The technique of paracervical block is more expansive than the intracervical injection due to the use of a specific needle (15€).
- Local anaesthetic is not an effective method of pain relief related to uterine contractions after aspiration (mean pain rating of 6,4).
- 100% of patients were satisfied. It may reflect that they are overall thankful to have the procedure completed even if it was painful. And unfortunately, it seems that for some of them, pain is a “self-punishing” aspect of induced abortion.

Thank you for your attention.