

EFFECT OF CARBETOCIN AT THE ONSET OF PARTURITION ON FARROWING DURATION AND PIGLET TRAITS

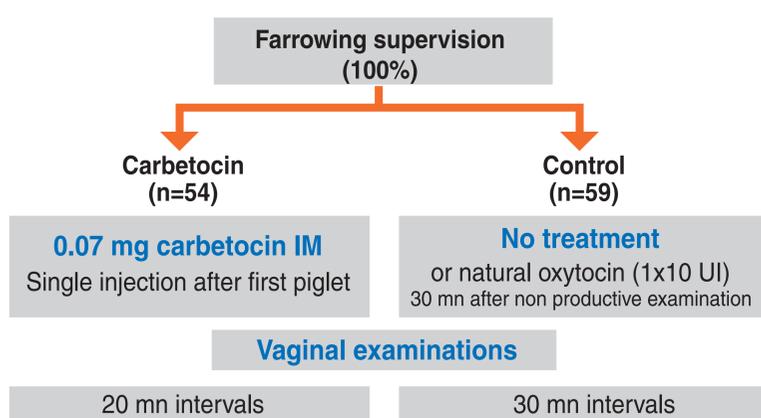
Sylviane BOULOT (1), Sylvie DUBROCA (1), Nathalie QUINIOU (1),
Olivier CHARPIAT (2), Pierre Yves RUELLAND (2)

(1) French Pig and Pork industry Institute, La Motte au Vicomte BP 35104 - 35651 Le Rheu Cedex, France
(2) Vétquinol SA 42, rue de Paradis 75010 Paris, France
sylviane.boulot@itp.asso.fr

Supervision and medication during farrowing may improve piglet survival. However, natural oxytocin has potential detrimental effects on the birth process. In this study, the impact of a synthetic analogous of oxytocin (carbetocin) at the onset of parturition was evaluated.

Material and methods

The experiment was carried out in the IFIP experimental station, and involved 7 batches of Large white x Landrace sows.



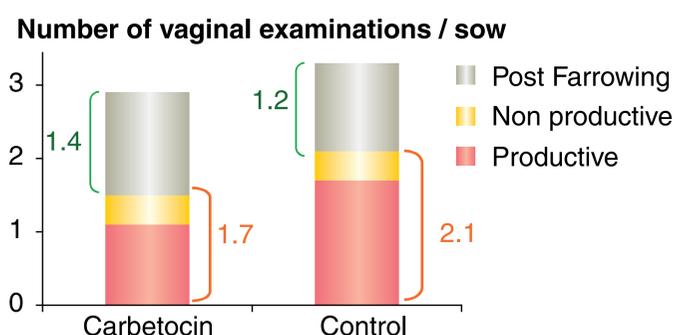
Both experimental groups had similar rates of birth induction (60%), 1st and 2nd parities (30%), and sow body condition. Collected data concerned :

- Piglets: litter size, deaths, vitality, meconium staining, umbilical cords, growth rates
- Farrowings: total duration (including mummies), number of vaginal examinations, number of manually extracted piglets.

Results

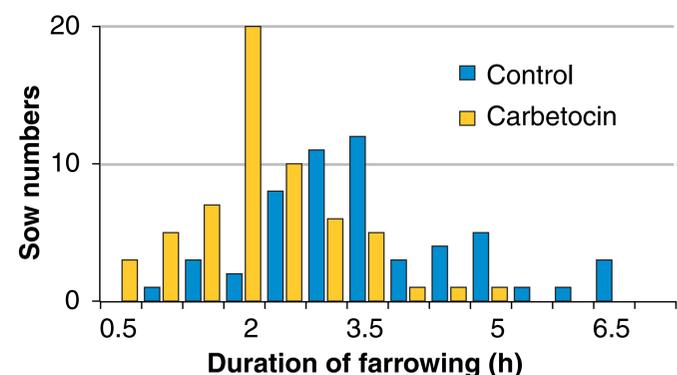
Average total born (14.7), born alive (13.9) and stillborn rates (6%) did not differ between the two groups.

Due to close supervision, manual assistance during parturition was frequent but at a lower level in the carbetocin than in the control group (see figure below).



Vaginal examination was performed later for carbetocin sows (after 8.8 vs. 6.3 piglets). Interventions were less productive in the control group with a single piglet extraction rate of 35% (vs. 25% in carbetocin).

Parturitions were easier and mean farrowing duration was significantly shorter in the carbetocin group than in the control group (2.1 vs. 3.3 h, $P < 0.01$, figure below).



According to the similar rates of severe meconium staining and umbilical defects, carbetocin did not increase foetal suffering (see table below)

	Carbetocin	Control	Diff
Total born (born alive + stillborn)	15.2	15.4	NS
Stillborn rate %	6.6	5.7	NS
Ruptured umbilical cords %	24.7	20.8	NS
Severe meconium staining %	7.7	6.0	NS
Piglet mortality 0-24 h %	3.2	2.8	NS
Piglet mortality before weaning %	22.8	23.5	NS

With regard to intensity of effort to stand up soon after birth, more piglets were scored 1 (low vitality) in the carbetocin group. As no adverse effect was seen, this may be only a short term consequence of the accelerated birth process.

In fact, scored 1 piglets performed better in the carbetocin group, with lower 0-24 h mortality (5 vs. 20%, $P < 0.05$) and lower 0-4 weeks mortality (26 vs. 56%, $P < 0.01$).

First 24 h mortality (3%), pre-weaning mortality (23%) and daily growth rate in farrowing house (263 g/d) were similar for both groups.

- A single dose of carbetocin at the onset of parturition significantly reduces farrowing duration and frequency of assistance.
- Carbetocin may improve management of hyperprolific herds without any increase of mortality.
- Note that these good results were obtained with a low dose (0.07 mg) and close supervision of parturitions.