Superovulation in the mare with commercially available pFSH

S. Parrilla-Hernández[1], S. Deleuze[1], J-F. Beckers[3], M-C.Lecrenier[2], J. Ponthier[1]
[1]Equine Clinic,Veterinary Medicine Faculty; ULg University of Liège, Liège, Belgium
[2]Linalux-MLS asbl, Ciney, Belgium
[3] Reproduction Physiology, Veterinary Medicine Faculty; ULg University of Liège, Liège, Belgium

Introduction

Superovulation could increase the global efficiency of equine embryo transfer, availability of embryos for freezing and the oocyte collection rates. To date, superovulation is still unsatisfactory in the mare. The aim of this study is to assess commercially available porcine FSH (Stimufol®, Merial, Belgium) for superovulation in the equine.

Materials and methods

Animals:

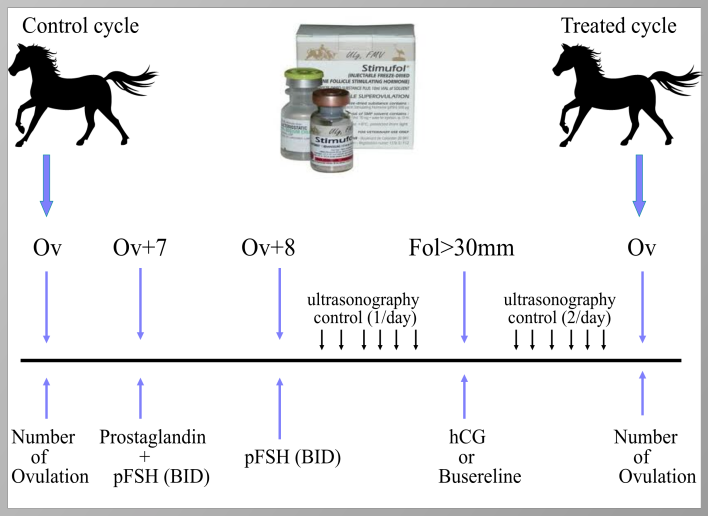
- 3 cycles of 5 mares during the breeding season
- 2 cycles of 4 mares out of the breeding season.

Experimental design:

- The first untreated cycle of each mare was used as control group.
- Mares were short-cycled with 125µg of cloprostenol.
- Mares received 6.25 mg of pFSH IM twice daily for 2 days.
- Ovulation was induced when a follicle reached 30mm.
- Ovaries were scanned until follicles>25mm had ovulated or disappeared.
- Number of ovulations was recorded for all cycles.

Statistical methods:

- Results were compared with the Kruskal-Wallis Test
- Significance was established at $p<0.05$.



Results

- Ovulation rates for control cycles were not statistically different, allowing results to be pooled.
- In general, the ovulation rate of treated cycles was higher than that of controls ($p=0.025$).
- Ovulation rate of treated cycles during the breeding season was higher than that of controls ($p<0.01$).
- Ovulation rate of treated cycles out of the breeding season was not statistically different from that of controls.

Response to pFSH

	Breeding Season		
Group	**In**	**Out**	**Total**
Control	**1.6**(5) [a]	**1.2**(4)	**1.4**(9) [c]
Treated	**2.9**(10) [b]	**1.5**(4)	**2.5**(14) [d]

Mean number of Ovulation per cycle.

Control= First untreated cycle, **Treated** = Cycle treated with pFSH, **( )** =Number of cycles studied.

Values in the same column with a different superscript are statistically different

Discussion

- Superovulation has been investigated in several studies but no satisfactory protocol has yet been established. Superovulation regimen yielding apparent good results involve numerous injections over a long period (several weeks) or molecules that are not yet commercially available.
- Duration of treatment with pFSH is short and no undesirable effects in the mares have been observed.
- pFSH seems to increase ovulation rates if administered during, but not out of, the breeding season. However, number of studied cycles in this experiment is too small to determine whether this is due to an inadequate regime or if this just reflects individual variations.

Conclusion

Commercially available porcine FSH (Stimufol®) is shown inoccuous and can increase ovulation rates in the mare. Further studies with larger numbers should be conducted to refine its use as it seems a interesting tool to superovulate mares.

Poster 209, p138
Annual Conference of the ESDAR, Antalya, Turkey