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Effect of oral meloxicam in loose-housed farrowing sows



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Background

- Loose-housed farrowing systems improves sow welfare
- Pre-weaning piglet mortality is higher in these systems due to more piglet crushing
- Involution of the uterus is assumed to cause pain in the first days after farrowing
- Pain may affect sow performance

Study objectives

To compare two groups of loose-housed farrowing sows given post-farrowing oral meloxicam or an oral placebo. The groups were compared with respect to:

- Piglets: Pre-weaning mortality, weight gain
- Sows: Salivary cortisol, anorexia

Confounding risk factors were also investigated

Materials & Methods

- Animals from three Danish herds
- Sows were randomly assigned to treatment with oral meloxicam or placebo over two consecutive days
- Double blinded RCT study
- 3538 and 1032 piglets from 247 and 85 sows were used for piglet mortality (Cox's proportional hazard model) and piglet weight gain (linear mixed model), respectively
- 200 sows for anorexia (log. reg.)



Registrations – piglets:

- Number of dead piglets
- Litter weight (day 1, 7, 14, 25 and 32)

Registrations – sows:

- Anorexia
- Parity
- Obstetric aid
- Disease and other treatment
- Clinical examination – pain



Subsample of sows:

- Salivary cortisol (pooled, n=65) in the treatment period (LMM)

Conclusions

- Oral meloxicam for sows did not significantly affect pre-weaning piglet mortality, weight gain or salivary cortisol, but did reduce the number of sows with anorexia

Results

Piglets

- No significant difference in piglet weight gain and pre-weaning mortality (Fig. 1) between groups

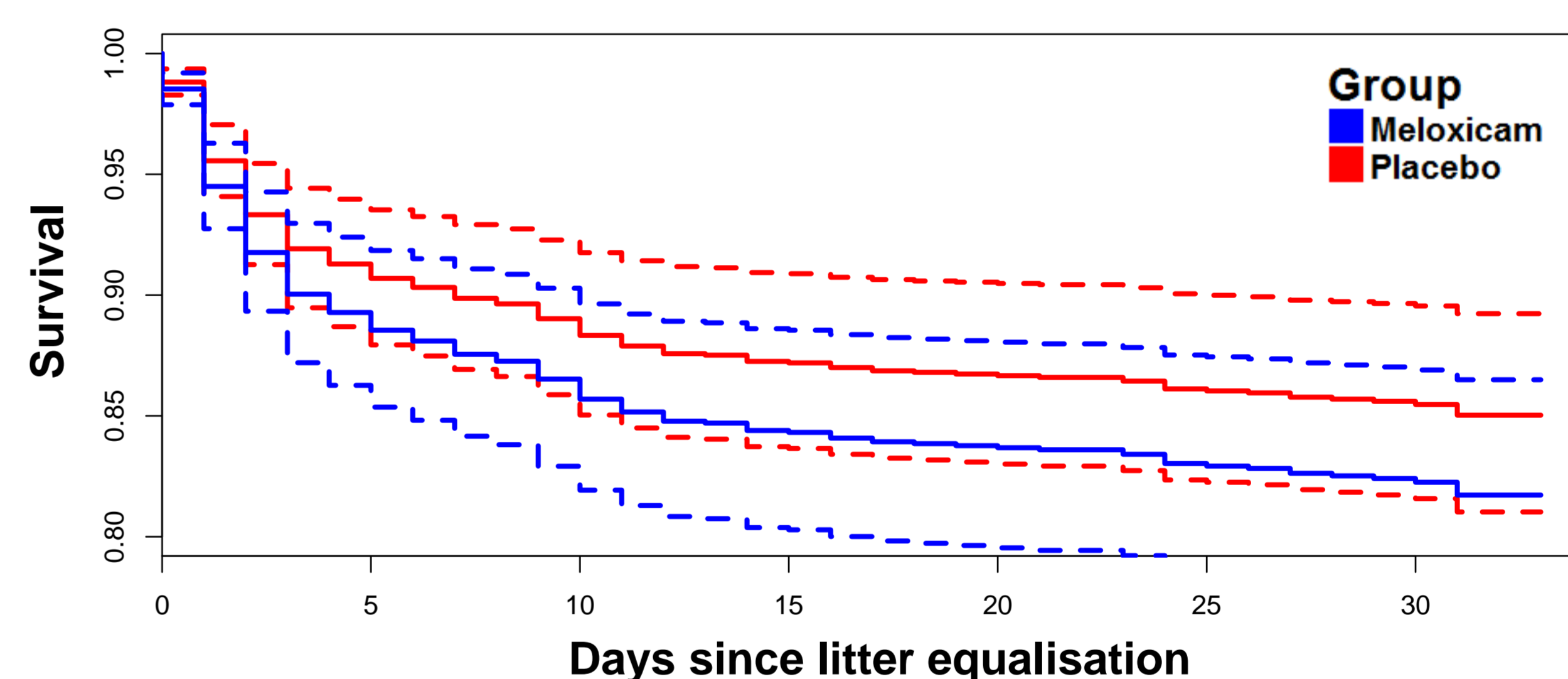


Fig. 1 Survival rate of piglets by days since litter equalisation (solid lines) and 95% CI (dashed lines) for sows given meloxicam (blue) and placebo (red)

Sows

- No significant difference between groups were found for salivary cortisol
- Parity, obstetric aid and pain prior to trial start were not found to significantly influence the outcomes
- There were significantly fewer sows with anorexia in the meloxicam group ($p=0.004$) (see also Fig. 2)

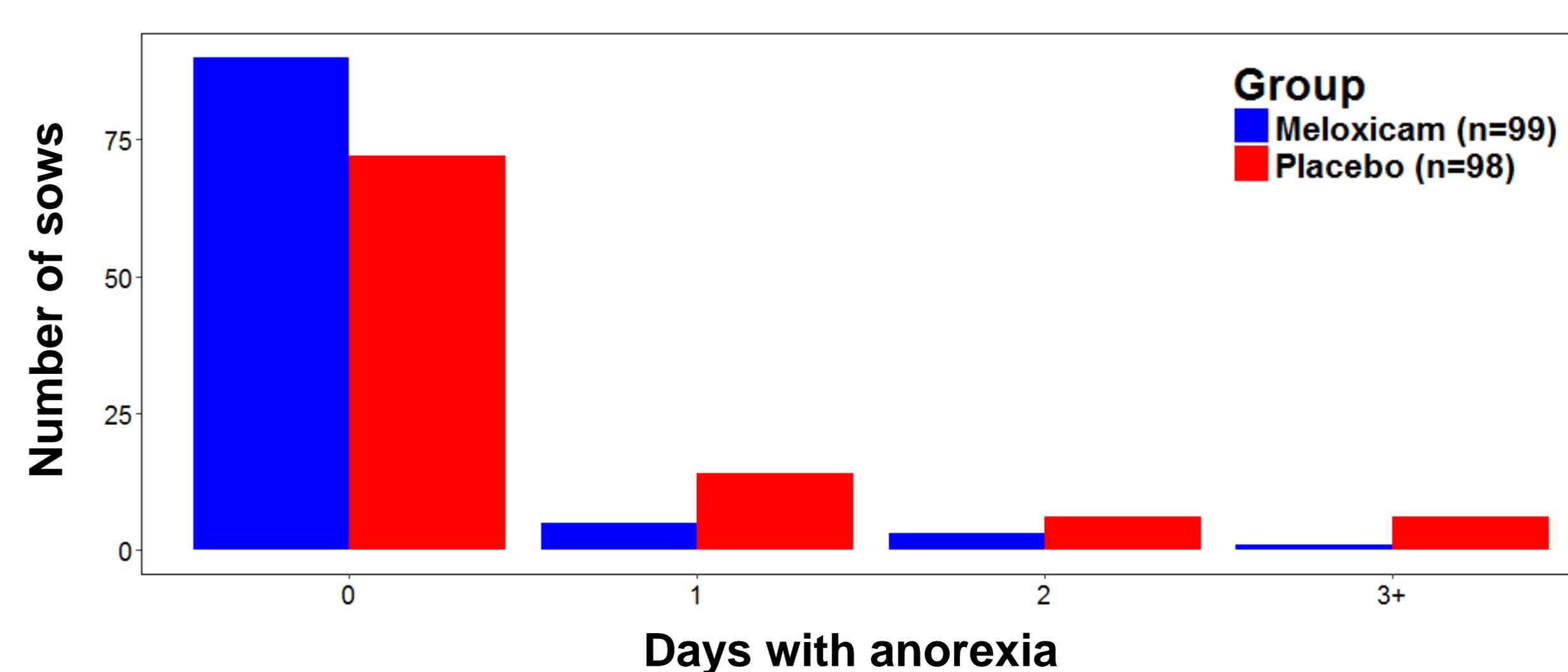


Fig. 2 Number of days with anorexia for sows in the two treatment groups