

MILK EJECTION AND MILK EJECTION FAILURE IN SOWS

F. ELLENDORFF*, M. FORSLING* and D. POULAIN*

The availability of sufficient quantities of milk at regular intervals is an essential prerequisite for the normal development of piglets. Unlike in other domestic species, where large cisternae make the access to milk relatively easy, the absence of cisternae in the sow makes the piglets dependent on the intact milk ejection reflex.

We have investigated behavioural, endocrine and intramammary pressure changes in 102 nursing periods of German Landrace sows and could determine successful and unsuccessful suckling periods. Successful nursing takes place at $46.2 \text{ min} \pm 1.9 \text{ SEM}$ (range 19 - 20 min). It consists of a number of behavioural and physiological components with the sudden intramammary pressure change to levels of 20 - 40 mm Hg and significant increase of plasma oxytocin levels from $1.3 \mu\text{U} \pm 0.3 \text{ SEM/ml}$ to up to 22.4 μU of oxytocin/ml within 30 sec prior to the change in intramammary pressure. Lysine-vasopressin levels did not change.

In 19% of the suckling periods unsuccessful nursing was recorded since oxytocin elevation and/or intramammary pressure increases were absent. Other time intervals remained which, though somewhat shorter, were similar to those observed between successful sucklings. Since oxytocin was absent in unsuccessful suckling, mechanisms inhibitory to the milk ejection of the sow must be within the central nervous system.

*Institut für Tierzucht und Tierverhalten (FAL), Mariensee, 3057 Neustadt 1, Federal Republic of Germany.