EFFECTS OF WEANING AGE ON POST-WEANING BELLY NOSING BEHAVIOR AND UMBILICAL LESIONS

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Summary

Pigs (n=2272) were weaned at 12, 15, 18, or 21 days of age to determine the effect of weaning age on post-weaning belly nosing behavior and associated umbilical lesions. A reduction (quadratic, $P<0.01$) in belly nosing behavior and umbilical lesions were observed as weaning age increased. The largest decrease in belly nosing behavior was observed as wean age increased from 12 to 15 days, with smaller incremental reductions in the 18 and 21 day wean pigs. This study indicates that weaning pigs at less than 15 days of age significantly increases belly nosing behavior and associated umbilical lesions after weaning.

(Key Words: Weaning Age, Belly Nosing, Navel Sucking.)

Introduction

Belly nosing and associated navel sucking behavior can be behavioral problems in weanling pigs. Belly nosing or navel sucking behavior often leads to significant lesions in the umbilical region. These lesions are primarily due to physical irritation. However, the physical irritation also serves as a pathway for localized or blood-borne infections. Inflammation in the umbilical region due to either physical damage or localized infection is thought to be a contributing factor to umbilical hernias. Observational reports often associate the prevalence or severity of these behavioral challenges with pigs weaned at very young ages. However, limited research has been conducted to determine the effects of weaning age on belly nosing behavior and umbilical lesions. The objectives of this study were to determine the effects of weaning age on post-weaning belly nosing behavior and umbilical lesions.

Procedures

This study was conducted on pigs from a 7,300-head sow farm. Pigs were housed in single source, all-in all-out nursery sites. Treatments included weaning litters of pigs from sows at 12, 15, 18, or 21 days of lactation. This study was completed in four blocks, with all pigs within block being weaned on a single day into an independent off-site nursery. Pigs (PIC 280 x C22, n=2,272) were individually tagged and weighed 3 d before weaning. At weaning, pigs of each age group were allotted using individual pig weight and gender information. Each block had four replicate pens per weaning age. Each pen contained an equal number of barrows and gilts and was representative of the normal weight distribution of barrows and gilts being weaned within each age group. Allotting pigs to treatment in this manner ensured that each pen

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served as a replicate of the population of pigs being weaned within each age group and block. Pens contained 34 pigs in block 1 and 36 pigs in blocks 2, 3, and 4. Nursery pens were 6 by 12 ft with wire flooring and two nipple waters. Each pen contained a double-sided feeder with five holes on each side. All pigs were fed a common three-phase nursery feed budget (Table 1).

Table 1. Feed Budget and Diet Composition

	Nursery Diets		
	Phase I	Phase II	Phase III
Feed budget (lb/head)	3	6	Remainder
Composition of diet %			
Spray-dried animal plasma, %	2.85	-	-
Lactose, %	20	12	-
Lysine, (true digestible) %	1.37	1.21	1.14
Kcal of ME / lb	1580	1580	1570

Each nursery pen was observed for 15 minutes during the morning of day 7, 14, and 21 after weaning. The number of pigs demonstrating belly nosing behavior in each pen was recorded. The umbilical region of each pig was examined on day 21 post-weaning after the observation period. The umbilical region was classified as to the extent of visual lesions present. The umbilical region classifications were normal, moderate lesion, or severe lesion. Amount of inflammation, swelling, and physical deformity were used to determine the classification. Umbilical region classifications were assigned numeric values of normal = 0; moderate lesion = 5; severe lesion = 15. The belly nosing behavior prevalence and 21-day umbilical scores were analyzed for linear and quadratic effects with pen serving as the experimental unit for all statistical analyses.

Results and Discussion

Belly nosing behavior (Figure 1) and umbilical lesions (Figure 2) were reduced (quadratic, $P<0.01$) as weaning age increased. These data indicate weaning age significantly affects both belly nosing behavior and associated umbilical lesions within a segregated early wean production scheme. Although numeric reductions in both belly nosing prevalence and umbilical lesion scores continued up through the 21-day wean pigs, the most pronounced decrease in prevalence and lesion scores were observed as weaning age increased from 12 to 15 days of age. This study indicates that weaning pigs of less than 15 days of age significantly increases belly nosing behavior and associated umbilical lesions. Therefore, weaning age is an important factor to consider when investigating increased rates of belly nosing behavior or umbilical lesions.

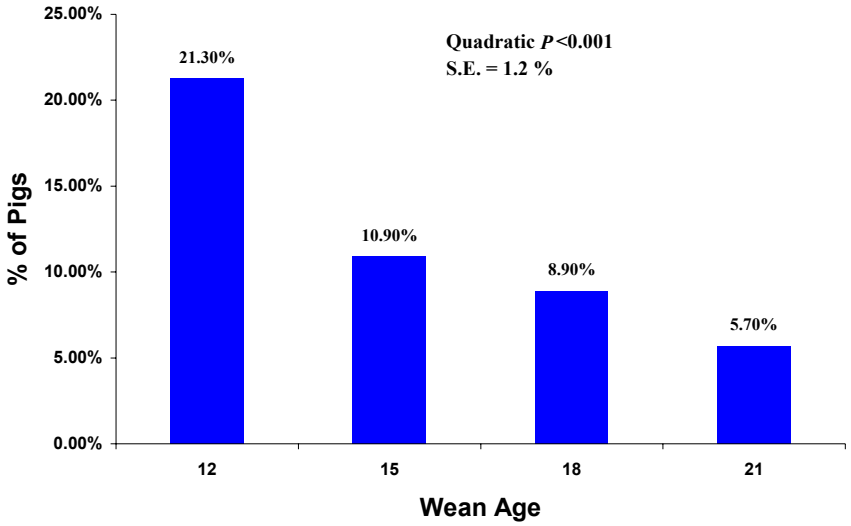

Figure 1. Proportion of Pigs Demonstrating "Belly Nosing/Navel Sucking" Behavior Post-weaning (as observed on day 7, 14, 21 post-weaning for 15 minutes/pen).

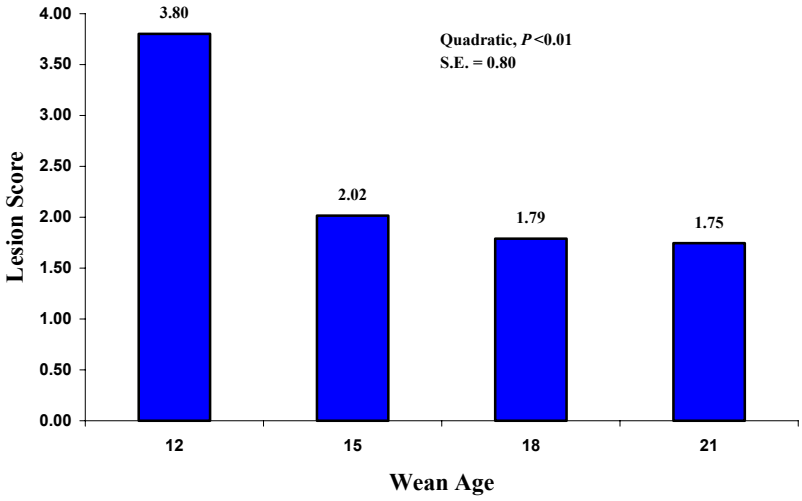

Figure 2. Mean "Navel/Umbilical Lesion" Score (Normal = 0, Moderate = 5, Severe = 15).