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Short Communication

Study on Boar Infertility : A Case of Late Maturity*

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Summary

Late maturity in boar can be diagnosed by the picture of abnormal spermatozoa in infertile mature boar (over 7 months old). After sometime, this boar may improve semen quality and become fertile.

A case of late maturity in a Duroc boar aged 10 months old encountered at Ratchaburi province with the history of breeding 4 sows and no conception was reported. By clinical examination, it was shown that both testes were normal in size and consistency. The two semen pictures with 14 days interval revealed 80-90% abnormal sperms especially proximal and distal cytoplasmic droplets and sperm motility was low. Sperm head morphology and sperm concentration was in the normal ranges. After 2 months of rest, he was subjected to reexamine and semen was collected 2 more times with 14 days interval. The semen picture were found comparative to normal one. He was tested for fertility with another 4 sows and all were pregnant.

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Introduction

The attainment of puberty or maturity in boar is considered to have spermatozoa appeared in the seminiferous tubules and present in the cauda epididymidis. These sperm cells are able to fertile although it is not at a maximum at this stage (Hughes and Varley, 1980). Normally, puberty occurs at between 5 and 8 months. If the animals have immature sperms or unfertile sperms in their semen at the age of puberty, they may not be considered as normal puberal animals.

There are many reports concerning late maturity in bull (Nur and Daffalla, 1985) which the semen picture indicate some abnormal sperms and low concentration but the semen picture improve after sometime. This report intends to present a case of a boar being diagnosed as late maturity.

1). History

A Duroc boar at 10 months of age and weighed 150 kilograms reared at a commercial piggery, Ban Pong district, Ratchaburi

was used to mate naturally twice to each of 4 sows but they were not concieved.

2). Clinical examination

The animal was very healthy and no abnormalities could be detected.

- Locomoter system, circulatory system, respiratory system and the other system were examined carefully and they appeared to be normal.

Reproductive system :

Inspection of testis

- Symmetry and relatively normal size.

Palpation

- Soft at superficial palpation and turgid and elastic at deep palpation.

- Tail of epididymis were filled and soft.

Mating behavior

- Libido - very good

- Grasping - fair, has some difficulty when grasped the bigger sow.

- Erection and seeking movement - good

- Ejaculation - normal ejaculation time (about 5 min)

3). Semen evaluation

Semen collections and evaluations were performed 4 times. The first two times were collected with 2 weeks interval thereafter the third was collected

and examined 2 months later. The fourth was confirmed 1 week after the third.

The semen picture is presented in Table 1.

Table 1 Semen picture of a Duroc boar

	Chronicle of semen collection			
	1	2	3	4
Mating time (min)	5	5	6	5
Volume (ml)	120	120	200	170
Density	milky	milky	milky	milky
Individual motility (%)	40	40	70	70
pH	7.0	7.0	7.0	7.0
Sperm conc. (10^6 / ml)	100	100	200	250
Sperm morphology				
A. William stain (%)				
- Narrow head	-	-	0.3	1.8
- Pear - shape	0.6	-	-	8.4
- Small, gaint	0.4	0.2	0.4	-
- Loosed head	0.6	0.6	0.2	-
- Normal head	98.4	99.2	99.2	89.8
B. Formal saline (%)				
- Prox. cyto. drop.	80.5	62.0	22.5	4.0
- Distal cyto. drop	9.5	20.5	7.0	2.0
- Simple bent tail	-	-	1.5	2.0
- Coiled tail	-	-	1.0	-
- Loosed head	-	2.5	-	1.5
- Normal sperm	10.0	15.0	68.0	90.5

After the fourth semen collection when the semen picture had been improved, the boar was tested for his fertility by mating with another 4 sows and all sows were concieved.

4). Discussion and Diagnosis

The results the of semen investigation is shown in Table 1. The volume of ejaculation, density and pH were in the normal range. However, the sperm concentration were rather low at the beginning but showed an improvement and became normal at the last two ejaculations.

William's staining for sperm head investigation showed normal number for all kinds of pathological sperm heads.

The Formal-saline count showed high percentage of proximal cytoplasmic droplets (80.5%) and distal cytoplasmic droplets (9.5%) at the first collection but showed an improvement and became normal at the last investigation.

According to history of infertility at 10 months of age

with poor semen quality, later on the semen pictures improved at 13 months of age and the boar became fertile and in combination of clinical and semen examination. This can be diagnosed as a case of *late maturity*.

5). Prognosis and Consideration

This boar can be used for breeding, however their offspring has to be considered when they are going to be as used the breeding animal.

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