The Indian Journal of Animal Reproduction; 29(1): 78-79; June 2008

Short Communicati

Incidence of Testicular abnormalities in Pigs reared under Field Conditions of Mizoram

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ABSTRACT

Cases of testicular hypoplasia and epididymal cysts were recorded in Mizo local and Large White Yorkshire pigs. The incidence of rudimentary epididymal cysts was 0.14 per cent and was located at the caput region of testis. The cauda epididymal sperm concentration was much lower in the hypoplastic testes as compared to the normal testes.

Key words: Testicular hypoplasia, Epididymal cyst, Biometry.

Pig occupies a very important status among the domesicatd animals of Mizoram. While attempting to augment pig production, it is essential to have knowledge on prevailing reproductive disorders. There are reports about the incidence of reproductive disorders in female pigs, but information about its incidence in male pigs appears to be scanty. Moreover, information about the incidence of reproductive abnormalities in pigs reared under field conditions is very less. The incidence of genital problems may vary from area to area depending upon the managemental practices adopted. Knowledge about the incidence of reproductive disorders in a particular area may help in evolving measures and managemental practices to reduce the problems. Hence, the present study was undertaken to study the testicular abnormalities in pigs reared under field conditions of Mizoram.

A total number of 142 apparently healthy male piglets (44 Large White Yorkshire, 41 Hampshire and 57 Mizo local) reared under field conditions were utilized for the study. These piglets were brought for castration at the age ranging from 2-6 months. The piglets were weaned at 60 -70 days of age. Before castration, the piglets were subjected to andrological investigation and abnormalities, if any, were recorded. A Mizo local pig was found to have cryptorchidism and the retained left testis was removed surgically. Immediately after castration, the testes and epididymis, which had abnormalities, were brought to the laboratory for detailed examination. The abnormal testes were examined for consistency and weighed. Biometry was studied after removing tunica vaginalis. The cauda epididymal sperm concentration was assessed using haemocytometer method.

Of the 142 piglets examined, a Mizo local piglet (5 month age) had unilateral cryptorchidism (fig 1). Similarly, a Large White Yorkshire piglet (4 month age) had testicular hypoplasia and two cases of rudimentary epididymal cysts (fig 2) were also recorded in Large White Yorkshire piglets. The overall incidence of testicular hypoplasia and epididymal cyst was 0.14 per cent in each case. The epididymal cyst was located at the caput region and its size was 0.6 X 0.6 cm and 0.7 X 0.6 cm in left and right testis, respectively. The weight of hypoplastic testis (7.89 g) was lower compared

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Fig. 1 Photograph showing epididymal cyst in both the testis of Large White Yorkshire pig

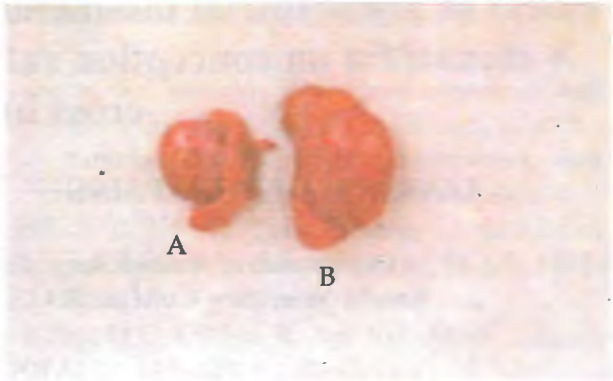

Fig. 2 Photograph showing morphology and size of hypoiplastic left testis (A) and normal right testis (B) in a Mizo local pig

the normal testis (19.19 g).

Clinical examination of the partially retained hypoplastic testis revealed that the retained testis was located at the inguinal ring and was smaller in size and flabby in consistency. The cauda epididymis was very loosely attached with the testis. The weight of retained testis was nearly half of the weight of normal testis. The consistency of the hypoplastic testis was also flabby where as the consistency of normal testis was turgid and firm but not hard. The cauda epididymal sperm concentration was much lower in the hypoplastic testis (40 million/ml) as compared to the normal testis (430 million/ml). Presence of spermatozoa in cauda epididymis suggests that it is partially hypoplastic. In partially retained testis, no sperm is produced, but well developed or degenerated seminiferous tubules may be present. Spermatogenesis is completely inhibited by the elevation of temperature of affected testis (Roberts, 1971). Testicular hypoplasia is a congenital and heriditary condition caused by single autosomal recessive gene with incomplete penetrance (Roberts, 1971). Hypoplasia may affect only one testis (unilateral) or both the testes (bilateral) with higher incidence in left testis, and also it may be partial or complete. Unilateral testicular hypoplasia has already been reported in bulls (Kodagali and Kerur, 1968), buffalo bulls (Maurya and Bhalla, 1966) and Swine (Arthur, 1989). The affected testis is reduced in size depending upon the degree of hypoplasia. Usually the affected testis is one third or two third of the normal size, but is usually firmer or occasionally softer than normal (Roberts, 1971). In the present study, the consistency of testis was flabby and its weight was nearly one third of the normal testis and this variation may be due to the degree of the hypoplasia. The semen picture of testicular hypoplasia is characterised by low sperm concentration (Arthur, 1989). The small and firm epididymis observed in hypoplastic testis in this study suggests low gonadal sperm reserve.

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