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SHORT COMMUNICATION

INCIDENCE OF REPRODUCTIVE ABNORMALITIES AMONG SLAUGHTER HOUSE ANIMALS IN PORT HARCOURT CITY

S.N. WEKHE* AND M.A. YAHAYA
Department of Animal Science
Rivers State University of Science and Technology
Nkpolu-Oroworukwo, P.M.B. 5080
Port Harcourt

Target Audience: Animal scientists, reproductive physiologists, veterinarians, meat inspectors, animal breeders.

ABSTRACT

Ante- and postmortem examinations were employed in a survey of the incidence of reproductive abnormalities of livestock. The study, centred in Port Harcourt city main abattoir for three months, subjected slaughter animals to intensive gross examination. Among the 2148 animals studied, 1.07% had reproductive affections. The relative proportions of affections within species were as follows -cattle (1.40%; 1.26%), goat (7.85%; 0.25%) swine (0.38%, 0.65%). Specific affections encountered included cryptorchidism, orchitis, phimosis, testicular hypoplasia, vaginitis and vulvo-vaginitis, mastitis and uterus-unicornis. The importance of health, selection and breeding of indigenous livestock has been highlighted

Key words: Reproductive abnormalities, livestock, abbatoir, Rivers State.

DESCRIPTION OF PROBLEM

Reproductive abnormalities in livestock create serious health problems to the veterinarian and the animal scientist and economic setback to the farmer. They are not easy to manage because their causative factors are diverse, varied or complicated. They are variously caused by the following factors: congenital or hereditary (1,2) hormonal (3) nutritional (4,5,6) infectious (7), environmental (8) and chromosomal (9). Prominent among these abnormalities are intersexuality (10), cryptorchidism (3), low libido (11), nymphomania (3), testicular hypoplasia (12) and repeat breeder syndrome to mention but a few. These abnormalities lead to sub-fertility or total infertility, sometimes shown as abortions, stillbirths, neonatal deaths or repeat breeding. The abattoir has been considered for this study because a good number of animals are gathered together at the abattoir from the various geographical zones of the North of

*Author for correspondence

Nigeria. The objective of the study was to determine the incidence of the gross reproductive abnormalities among the Nigerian livestock that reach the abattoir.

MATERIALS AND METHODS

Regular visits were made early enough in the mornings to the Port Harcourt abattoir, over a period of three months to conduct both ante- and postmortem inspections of cattle, goat and swine gathered for slaughter. In antemortem, the scrotum was palpated for pain and swelling while the penis was examined for adhesions, phimosis and priapism. In the females, the mammary glands and the external genitalia were inspected for hardness, pain and inflammations. In the postmortem, the internal genitalia of both sexes were examined for anatomical deformities. The organs so checked were internal vagina, cervix, uteri, fallopian tubes and ovaries in the females and penis, prepuce, testes, spermatic cords and the glands of prostate, seminal vesicle and the cowper in the males.

The data gathered were subjected to proportional comparison and statistical analysis at 95% binomial confidence level, using the conventional epidemiological data (13). The procedure could be summarised as follows: for a sample size in which p = abnormally affected proportion and q = 1 - p is the unaffected proportion, the upper confidence limit is obtained by reading off the graph for appropriate p and n and adding the value to the estimated p. The lower limit on the other hand, is obtained by reading off the graph for the appropriate q and n and subtracting the value for the estimate p.

RESULTS AND DISCUSSION

The total livestock examined was 2148, out of which 23 (1.07%) had reproductive abnormalities. The affections relative to species were as follows: 14 (1.27%) out of 1099 cattle 6(1.27%) out of 471 goats and 3 (0.52%) of 577 swine. The reproductive diseases encountered (Table 1) among bulls were cryptorchidism with 0.63% incidence, orchitis 0.31%, phimosis 0.21%, testicular hypoplasia 0.1% among the cows, vaginitis 0.7% and vulvo-vaginitis 0.7%. The diseases encountered in the goat included cryptorchidism in the buck 0.25% whilst in the does vaginitis was 1.50% and vulvo-vaginitis 6.06%. In the swine, the diseases were testicular hypoplasia for the boards, 0.65%, and uterus unicornis for sow, 0.38%. For cryptorchidism in cattle, four were unilateral and two bilateral. Statistically using Cannon and Roe tables (13), the proportion of female goats affected (that is five of the 66 examined) was the only significant (0.03-0.17) affection for both sex and species evaluations. The significance was assessed at 95% binomial confidence level (13).

The incidence of unilateral cryptorchidism was higher than the bilateral. This is in agreement with an earlier survey (14). Cryptorchidism is a common phenomenon in livestock especially swine and even in other domestic animals including horse. McEntee *et al* (15) reported a cryptorchid stallion with female

karyotype. This could imply the suppression of maleness by the female chromosomal complication, which could be due to suppression of male hormones whose lack disturbed the descent of the gonads. The gonads (testicles) might therefore be retained anywhere between its origin and the scrotum. The unilateral cryptorchidism could be associated with heterozygous condition of inheritance while the bilateral manifestation indicates double does effect (16). This would be understandable since most farmers breed their stock.

Table 1: Incidence of Reproductive Abnormalities

Species	Cattle		Goat		Swine		Sheep		Total
No sampled	1099		471		577		1		
Sex	Female	Male	Female	Male	Female	Male	Female	Male	
No sample	143	956	66	402	271	306	1	-	2148
No of affections	2 (1.40)	12 (1.26)	5(7.58)	1(0.25)	1(0.38)	2(0.65)			23(1.07)
Cryptorchidism		6(0.63)		1(0.25)					7(0.33)
Orchitis		3(0.31)	1(1.50)						3(0.14)
Phimosis		2 (0.21)	4(6.06)						2(0.09)
Testicular hypoplasia		1(0.01)				2(0.65)			3(0.33)
Vaginitis	1(0.07)								2(0.09)
VulvoVaginitis	1(0.70)								1(0.05)
Mastitis			4(6.06)						4(0.19)
Uteru-Unicornis					1(0.38)				

Figures in parenthesis are the percentage relative to the total number indicated under species and sex in the column.

The incidence of testicular hypolasia in cattle and in swine is not proportionate with the data reported by Holst and Halbrook (17) whereby they found eight among thirty boars with defective testicles to have hypoplasia. They believed that the condition was hereditary. If this was the case, then it was that factor that gave rise to the high proportion of its incidence in the population they handled. In the present study, the abattoir population was pooled from widely varied sources, giving the sample a very high randomity, free from the effects of inbreeding and heredity. The result of the present study should be more realistic than those of Holst and Halbrook (17).

Orchitis and phimosis were observed only in the cattle with incidence of 0.31% and 0.21% respectively. Most of the cattle at slaughter are old and these conditions appear to erupt with older animals. In as much as the incidence of vaginitis in cows (0.70%) and does (1.50%) in this work is not in line with the observation of Kendrick *et al* (8), the occurrence should be regarded as sporadic based on the low incidence. The same goes for vulvo-vaginitis. With such low incidence (Table 1), it is difficult to have enzootic or epizootic proportion of occurrence. Farmers are thus saved from the hazards of the affections mentioned above. The incidence of goat mastitis (6.06%) means that approximately one doe is affected in every 17 does whereas there would be no incidence of mastitis in as many as 956 cows. The implication is that cattle apparently receive more veterinary attention than goats. This observation indicates that more attention should be directed to the health of goats. The disparity in the incidence of cow and goat mastitis could be significant if biometrically assessed but this is not too necessary since ordinary arithmetic has already made such effect too obvious for further statistics. However, if

cattle was assessed with the rate of affection of mastitis in goat, it would mean that there would be about 56 (956/17) cases of mastitis from the 956 cows in this study.

It is worthy of note that there were species differences in the incidence of reproductive abnormalities (Table 1). The average incidence among the female was highest among the does, followed by cattle and lastly the pig. There were more types of affections in cattle than in goat and swine. This means that cattle are more susceptible to diseases than goat or pig. Pigs appear to enjoy the best health attention for having the least number of affections and also a low incidence average.

The level of mastitis in the goats could be important economically. It implies sub-fertility, neonatal mortality, death of dams and loss of milk in goat-milking areas.

CONCLUSION AND APPLICATIONS

Attention is required in the health, selection and breeding of our indigenous livestock. There should also be urgent attention to mastitis in goat and to diseases that attack cattle and pigs.

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