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Original Research Article

A Retrospective Study of Castration in Dogs in Jos, Plateau State, Nigeria from 2011 - 2016

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Abstract: Castration is a common procedure that is performed worldwide on animals. This paper undertakes a retrospectively study of castration in dogs in Jos from 2011 – 2016. Medical records from 2 major veterinary institutions were retrieved. A total of 38,201 cases were presented to the small animal units from 1st January 2011 to 31st December 2016. Out of which a total of 299 (1%) dogs were castrated. Based on age of the dogs, 206 (68.9 %) aged 0 – 11months; 55 (18.4%) aged 1year – 1year 11months; 24 (8.03%) aged 2years – 2 years 11months; 4 (1.34%) aged 3years – 3years 11months; 3 (1.00%) aged 4years – 4years 11months; 7 (2.34%) aged 5years and above were castrated. Most dogs castrated were Mongrel 271(90%), Alsatian cross 16 (6%), Rottweiler 6 (2%) and Caucasian 6 (2%). From clinic records, all 299 (100%) castrations performed were through surgical method. The study revealed that majority of dog owners requested that their dogs be castrated before 1year of age, but the demand decreased with increase in age of the dogs.
Keywords: Castration, Surgical, Male dogs, Retrospective study

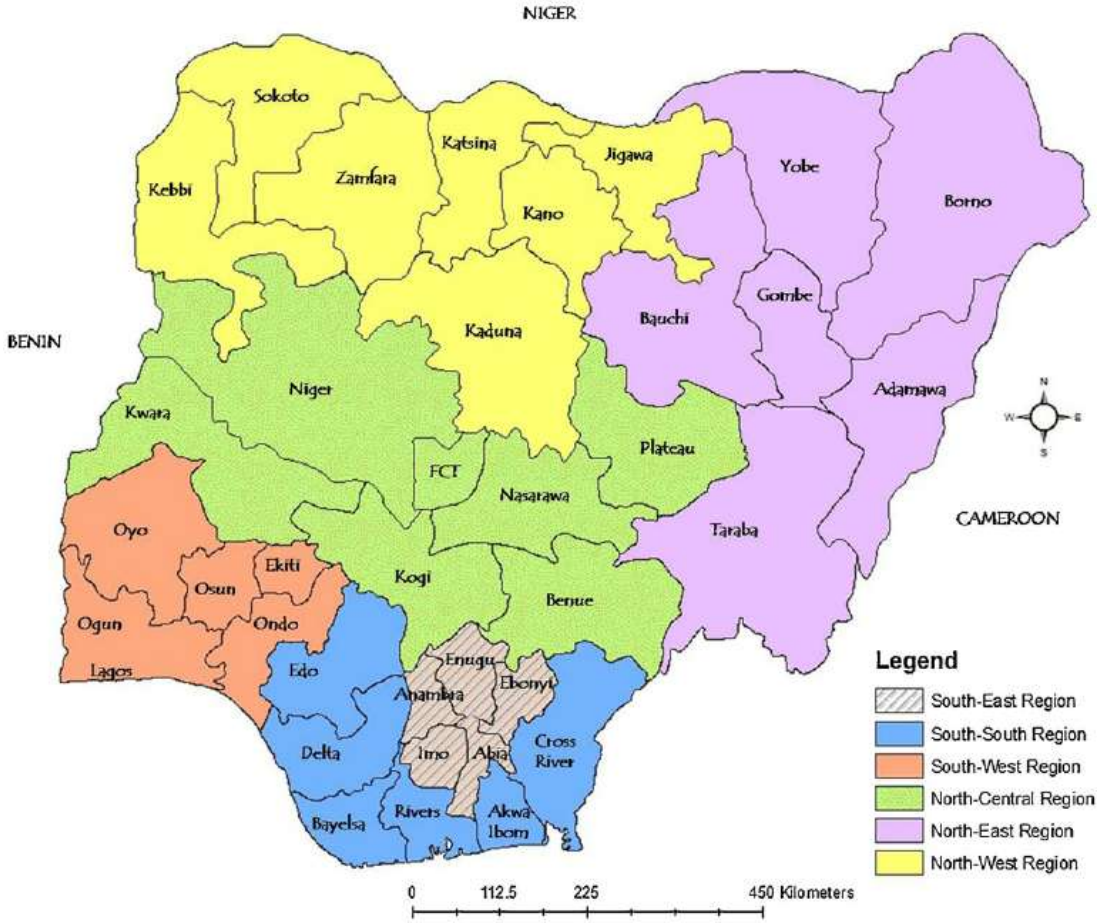
INTRODUCTION

Castration is one of the most common surgical procedures performed in veterinary practice by small animal practitioners [1, 2, 3]. It is the removal of the testes [4]. Generally, castration can be done through surgical, chemical [5] or by immunocastration methods [1]. Male dogs are castrated primarily for contraception, health reasons, to change or remove undesirable behavior [3]. According to Woodruff *et al* [6], most dogs are castrated between 6 and 9 months of age. The American Veterinary Medical Association, American Animal Hospital Association, American Kennel Club and Society of Theriogenology and American College of Theriogenologists support castrating pups at 8 – 16 weeks. There are risks associated with castration of male dogs. For instance; it increases the risk of prostate carcinoma, hemangiosarcoma, mast cell tumors, lymphosarcoma and lymphoma, as well as other kinds of cancer. It has also been shown to correlate with an increased rate of autoimmune diseases and other diseases such as joint disorders and dermatological conditions [3]. Despite being a common surgical procedure in small animals, it has potential post-operative complications such as wound dehiscence, scrotal swelling, hemorrhage, subcutaneous bruising, scrotal hematoma and self-trauma at surgical site [7]. This study aims at retrospectively studying the demand for castration by dog owners, age of castration, breed of dogs, and method of castration.

MATERIALS AND METHODS

Study Area

This retrospective study was carried out in Jos, Plateau state in the North-Central region of Nigeria. Jos is located between Latitude 9°56´N and longitude 9°56´E. It is made up of Jos North, Jos South and Jos East Local Government Areas. The study was restricted to Jos North and Jos South because of the large number of dog ownership and the two major Veterinary hospitals providing veterinary services to Plateau state and its environs (Kaduna State, Bauchi State, Gombe State, Nassarawa State and FCT). Medical records of the two veterinary hospitals were assessed to retrieve cases of dog castration.



Map of Nigeria showing Plateau State and its boundary states (Kaduna, Bauchi, Gombe, Nassarawa and FCT).

Data collection

Medical record search was made for castration requests from 1st January 2011 to 31st December 2016. Demographic data (age at castration, and breed) and method of castration were retrieved.

RESULT

The results of this study are presented in Tables 1-3 showing the ages of dogs castrated on request by owners; breeds of dog castrated and most explored method of castration from January 2011 - December 2016. A total of 38,201 cases were presented to the small animal units from 1st January 2011 to 31st December 2016. Out of which a total 299 (1%) dogs were castrated. Based on age of the dogs, 206 (68.9 %) aged 0 – 11months; 55 (18.4%) aged 1year – 1year 11months; 24 (8.03%) aged 2years – 2 years 11months; 4 (1.34%) aged 3years – 3years 11months; 3 (1.00%) aged 4years – 4years 11months; 7 (2.34%) aged 5years and above were castrated as represented in Table 1. The most castrated breed of dogs were the Mongrel 271(90%), Alsatian cross 16 (6%), Rottweiler 6 (2%) and Caucasian 6 (2%) as shown in Table 2. From clinic records, all 299 (100%) castrations performed were through surgical methods as shown in Table 3.

Data management and analysis

The data retrieved from the medical records were tabulated and calculated in percentages as follows:

Table 1: The Age of Dogs Castrated from January 2011 and December 2016 in Jos.

Age of Dogs	Number of dogs	Percentage (%)
0 – 11 months	206	69
1year - 1year 11months	55	18
2 year - 2years 11months	24	8
3years - 3years 11months	4	1
4years – 4years 11months	3	1
5years and above	7	2
Total	**299**	**100**

Table 2: Breeds of Dog Castrated from January 2011 and December 2016 in Jos.

Breed of Dog	Number of Dogs	Percentage (%)
Mongrel	271	90
Alsatian cross	16	6
Rottweiler	6	2
Caucasian	6	2
Total	**299**	**100**

Table 3: Methods of Castrating Dogs from January 2011 and December 2016 in Jos.

Method of Castration	Number of Dog	Percentage (%)
Surgical castration	299	100
Chemical castration	0	0
Immunocastration	0	0
Total	299	100

DISCUSSION

The result of this study showed that in the study area as in other parts of Nigeria, surgical castration is not prohibited but is routinely performed in dogs under sedation and local anesthesia and usually for elective reasons [1]. According to this study, 1% of dogs in Nigeria are castrated as reported by Ajadi [8]. In countries like Norway, routine surgical castration is prohibited but in Sweden, Denmark, Finland and Germany the procedure is not prohibited but removal of organs or parts of animals for purpose of convenience is discouraged [9]. Although surgical castration is opposed by some owners, it is a procedure that is more socially acceptable, despite its cost [10]. However, in the larger circle of veterinary profession, the practice of castrating dogs has come under scrutiny as castrated dogs are at a higher risk of developing prostate neoplasia. On the other hand, it prevents testicular neoplasia and is an effective treatment for benign prostate hyperplasia. It is very important for veterinarians to consider the risk/ benefits for every castration demand by dog owners [2].

Unlike Ajadi, [7] who reported that mixed breeds of dog are mostly castrated in Nigeria, this study revealed that the Mongrel is most castrated followed by Alsatian cross and least are the Rottweiler and Caucasian. Most households in the study area keep Mongrel dogs as source of income (dog meat trade) while the exotic breeds (Alsatian, Rottweiler and Caucasian) are kept for security and companionship. Personal communication with dog owners revealed that male Mongrel dogs are usually owned but not confined, so, castration prevents roaming during dog breeding seasons and promotes weight gain for good market value because of the practice of dog meat consumption by humans. In Nigeria, just like in other cultures round the world (other West African countries, China, Indonesia, Thailand, Korea, Cambodia, Mexico, Vietnam and Switzerland), dogs are traded for meat [11]. Various ethnic groups in Plateau, Gombe, Taraba, Kaduna, Kebbi, Ondo, Cross River and Akwa Ibom states of Nigeria consume dog meat as a delicacy [12], cure for Malaria, aphrodisiac [11] and also as protection against witchcraft, and rabies [13]. For these reasons, dog meat consumption and castration are practices that are difficult to abolish.

According to Howe, [2], there is no evidence for best age to castrate animals as the timing is less defined in dogs but the optimal age may be dependent upon several factors, including species, breed, body size, and breed-specific diseases, among others. However, several studies have reported high risk of hip dysplasia in males castrated before they are 1 year of age (10.2%) than intact dogs (5.1%) or those castrated after 1 year of age (3.1%). A common skin tumor (mast cell tumor) in dogs is more common in males castrated after 1 year of age followed by those castrated before 1year of age or intact animals. Studies have suggested that castration may affect risk of cranial cruciate ligament injuries. The risk is higher in male dogs castrated before 1year of age than those castrated after 1year and lowest in intact males. There is also delayed growth plate closure in males (cats and dogs) castrated early in life. Extrapolating these findings to all breeds of dog will be erroneous since some conditions occur more frequently in certain breeds than others.

CONCLUSION

In conclusion, the high demand for surgical castration reported in this study revealed that dog owners in the study area are probably ignorant of alternative noninvasive methods and the risk and benefits of castration. Veterinarians in the study area should educate dog owners on alternative methods of castration in order to make the most appropriate decision for the dog. It was also discovered that there was no follow up of all castrations performed in all the veterinary hospitals. Therefore, complications and the impact of castration on the dogs could not be studied. It is recommended that proper follow up should be given to all castration in dogs and the clients should be made to comply. The Veterinary Council of Nigeria and Nigerian Veterinary Medical Association should enact

and enforce Animal Laws that are concerned with Animal Welfare for best veterinary practices.

Disclosure

There is no conflict of interest in this work

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