



Short Communication

Incidence of tuberculosis in goats in Abak local Government Area - A case study of Abak Abattoir

E.E.A. Offiong ^{1*}, E.O. Obioku ², U.M. Etim ², M. Habib ³, K.K. Nkeme ⁴

¹ Department of Animal Science, Akwa Ibom State University, Obio Akpa Campus

² Eddie Veterinary and pest Control Services, #16 Akpakpan Street, Uyo, AKS

³ Faculty of Veterinary Public Health, Ahmadu Bello University, Zaria

⁴ Department of Agricultural Economics and Resources Management, Akwa Ibom State University, Nigeria

Abstract

Tuberculosis is a very important zoonotic disease which affects all vertebrates. It is therefore important to carry out ante mortem inspection/examination and they that react positively should be treated. If they are discovered at post mortem, they should be totally condemned in order to meet up with international standard of meat as contained in the *Codex Alimentarius*. It is also observed that incidence of tuberculosis in man is directly proportional to the incidence in animals except when the meat is properly examined at post mortem and wholesome meat is released to the market for consumption. It is advisable that adequate quarantine measure should be put in place to prevent meat with disease from spreading into the Country from other country. These measures should include adequate meat inspection procedures (ante and post mortem), isolation and treatment of infected animals.

Keywords: Tuberculosis; Lungs; Prevalence; Goat

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* Corresponding author. E-mail address: dredemoffiong@yahoo.com

1. Introduction

Goats (*Capra hircus*) as known in different parts of the world are one of the smallest domesticated ruminants which have saved mankind earlier for many generations. The important role of goats in production of milk, wool and manure is well documented (Devendra et al., 1970).

Goats are prolific and require low input for moderate level of production, reach maturity early and are profitable to keep (Devendra and Burns, 1999). Tuberculosis in goats has not been extensively investigated in comparison with other domesticated species in Nigeria. Tuberculosis infection is mainly caused by *Mycobacterium caprae*. In goats the disease will normally spread through head to head contact, which will include sharing of haystacks and water bowls as well as general aerosols spread from breath. Tuberculosis can infect the udder in which the milk is infective until or unless the milk is pasteurized. Sputum coughed up can be swallowed and thus infect the dung. Most commonly in goats, it is seen as a chronic cough which is unresponsive to treatment that may be accompanied by gradual loss of weight and sometimes diarrhea (Aranaz et al., 2003). The Predilection site for tuberculosis in goats is the lower respiratory tract and the associated lymph nodes (Daniel et al., 2009).

The purpose of this present study therefore is to determine the prevalence of tuberculosis and the usefulness of post mortem for tuberculosis diagnosis in goats slaughtered in Abak Local Government Area Abattoir.

2. Materials and method

A total of 339 slaughtered goats were inspected during the period the study lasted (37.8%) were found to have TB on post mortem.

The study site was the Abak Local Government Area abattoir. The species of goat studied were the West African dwarf and Sokoto red goats transported from the neighboring states and local government area for slaughter. Following retrospective study on the incidence of TB in goats slaughtered in Abak L.G.A. abattoir encountered at post mortem in the abattoir, meat inspection was conducted on daily basis between the March and August 2009 at Abak L.G.A. abattoir. After the slaughter and subsequent evisceration, the visceral organs such as the lungs, liver and the lymph nodes were examined for gross lesions of TB. The total number of organs affected were; the lungs (66), the liver (35) and the lymph node (27). The number of goats considered in the study was 188 males and 151 females. The total number of TB affected organs was recorded. A simple percentage was adopted in the presentation of the result and shown graphically.

3. Result and discussion

Organ distribution indicated that the lungs had the highest number of prevalence 66 representing (51.6%), liver 35 (27.3%) and lymph nodes, 27 (21.1%). Similarly, sex consideration showed that female goats (nanny) had the highest level of infection with TB with number of 68 (53.1%) while the male 60 (46.9%).

It was noted that the highest rate of tuberculosis incidence in goats slaughtered for meat in the study Area was recorded in the month of June, followed by March and July respectively. The lowest rate of incidence was recorded in the month of May as shown in Figure I and Figure II.

This high rate of incidence could be attributed to the season as June falls within the rainy season characterized by constant rain and high humidity which could aid the proliferation of the Tuberculosis spores. In the study the lungs appeared to have higher number of cases, this is due to the soft nature of the lungs tissue (WHO? OIE). The lungs also have low resistance which provides an excellent medium for rapid growth of *Mycobacterium caprae*.

Female animals had higher infection were found to be mostly infected which may be due to some physiologic conditions such as pregnancy, lactation etc. that rendered the animal vulnerable to disease conditions. (Eckert and Deplazes, 2003). Age could be the most important factor here than sex, since the females were also observed to have a better life expectancy and more important for breeding than the male thereby having a longer period of TB incubation.

Table 1. The total number of animals slaughtered from March – July 2011 and those affected by tuberculosis

	No. of Animals Slaughtered	No. of Males	No. of Females	No. of Cases	No. of Male cases	No. of Female Cases	Total No. of Lungs Cases	Total No. of liver	Total No. of Lymph node Cases
March	70	50	20	30	16	14	15	5	10
April	66	31	35	21	9	12	11	4	6
May	69	40	29	15	6	9	9	3	3
June	73	31	42	34	18	16	18	14	2
July	61	36	25	28	11	17	13	9	6
Total	339	188	151	128	60	68	66	35	27

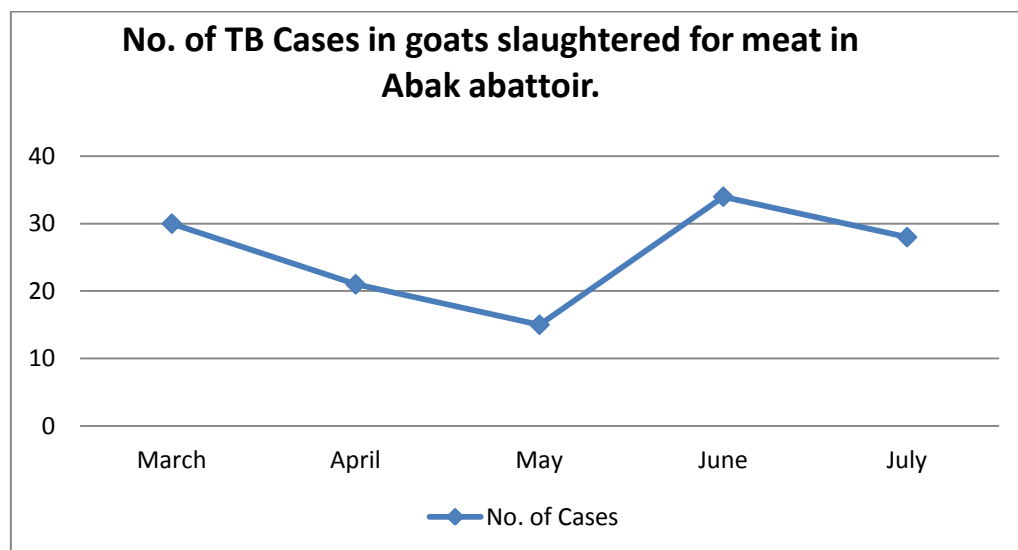


Figure 1. Graphical representation of recorded tuberculosis cases in Abak Abattoir

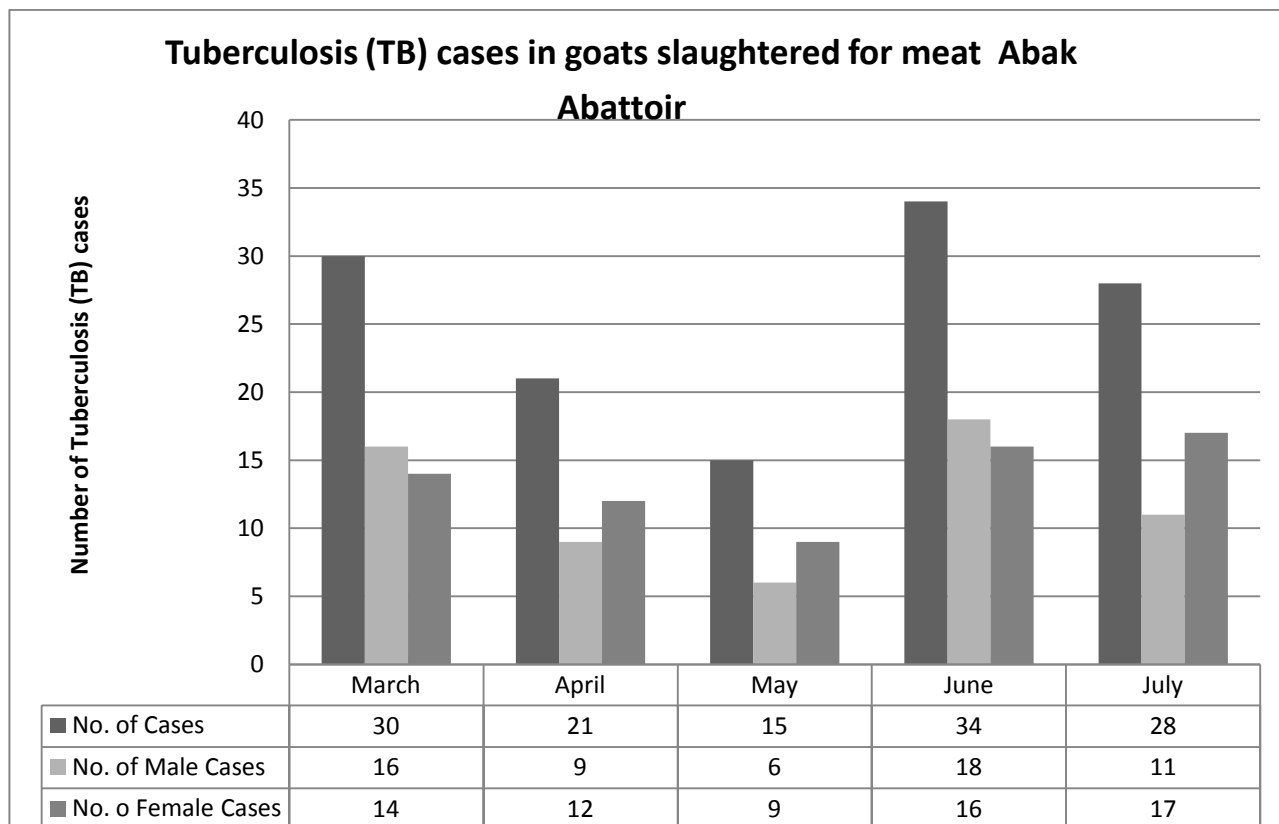


Figure 2. Showing the number of tuberculosis cases and their rate of incidence

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OIE - World Organization for Animal Health, <http://www.oie.int/eng/normes/mcode/ensommaire.htm>. 12ruedepony 75017. Paris. France.