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A Case of Generalized Bovine Tuberculosis in a Slaughter Slab

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Abstract: Tuberculous lesions were observed in the lining of the thoracic and abdominal cavity of a slaughtered white Fulani bull, most of the organs also had tubercles. Further test to confirm the diagnosis was not possible due to lack of veterinarians, inadequate facilities and the attitude of the butchers. The butchers were also seen scrapping off some of the tubercles from the affected organs. Abattoirs and slaughter slabs serves as an important step in the surveillance of diseases therefore the facilities for meat inspection should be adequate and up to date as this will help minimize infections to humans.

Key words: Bovine · Tuberculosis · Slaughter Slab · Case Report

INTRODUCTION

Bovine tuberculosis is widely distributed throughout the world and its enzootic occurrence has been reported in developing countries like Nigeria [1]. It is a chronic, infectious disease caused by *Mycobacterium bovis* and is characterized by the formation of granulomas in tissues, especially in the lungs, lymph nodes such as retropharyngeal, bronchial and mesenteric lymph nodes, liver, intestines and kidney, spleen, serous membranes [2, 3]. The organism may be transmitted by aerosol or droplets of exudates containing the bacilli. It can be transmitted by ingestion of feed and water contaminated with urine, faecal material or exudates that contain the tubercle bacilli from diseased animals [4].

Despite intensive efforts over decades, bovine tuberculosis (BTB) continues to be a significant global problem. The impact of the disease varies both by continent and economic status of individual countries [5]. In the diagnosis of tuberculosis in cattle, several ways are often employed but necropsy represents the most acceptable means of detecting tuberculous lesions in cattle especially if the lesions are visible [6, 7]. At necropsy, a tuberculous granuloma usually has a yellowish appearance and is caseous, caseo-calcareous, or calcified in consistency. The caseous center is usually dry, firm and covered with a fibrous connective capsule of varying thickness [2, 8].

Fig. 1: Lesions in the mesentery and intestines

Fig. 2: Tubercles on the carcass

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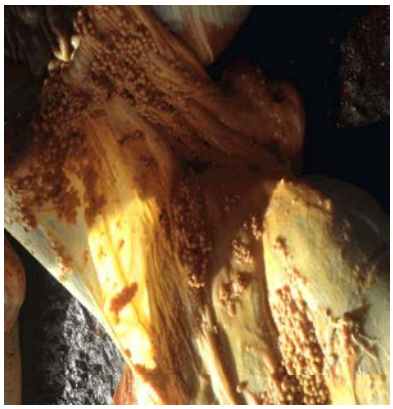

Fig. 3: Tuberculous lesions on the diaphragm

Fig. 4: Scrapping off tubercles

Fig. 5: Part of the pluck with tubercles

The importance of this paper is to demonstrate the effect of the consequent failure of the government to establish a proper/adequate, full equipped and functional abattoir and slaughter slabs that have a Veterinarian attached to it.

Fig. 6: Lungs with yellowish caseous granulomas

Case Report: The slaughtered cattle (Adult male white Fulani) was discovered to have extensive tuberculosis lesions of various sizes in both the thoracic and abdominal cavities. A tentative diagnosis of tuberculosis was made but a confirmatory diagnosis could not be achieved due to refusal of the butcher to submit the samples for further examination. The butchers went on to scrape off the tubercles present on the some of the organs and carcass and proceeded to take them to the meat stands to be retailed and due to the lack of proper inspection.

The lungs showed yellowish caseous parts of the tubercles (Fig. 6). Ante-mortem and Post mortem inspection of animals to be slaughtered does not take place in this abattoir as previously reported by Kalu *et al.* [9] therefore the butchers were able to scrap off the granulomatous lesions on the organs and still passed them to the retailers to be sold for consumption. The scrapped off lesions were discarded into nearby bushes.

DISCUSSION

Due to the poor status of the slaughter slabs, lack of veterinary inspection and lack of basic equipments required for daily routine meat inspection, the population receiving meat from such slaughter slabs will continue to be at risk of zoonotic diseases.

Meat inspection is very important because it helps provide epidemiological information on zoonotic meat borne diseases, ensures provision of hygienic wholesome meat free from infections, toxicoses and chemicals normally used for meat processing in certain abattoirs in Nigeria [10]. In the past, eradication of

zoonotic tuberculosis in developed countries was achieved partly through abattoir meat inspection and condemnation of affected carcass or organs [11].

The absence of Veterinarians/ meat inspectors enabled the butchers to get away with scrapping off the tubercles from the carcass and organs that should have been condemned. Improper record keeping also meant that the animal could not be traced back to the farm where it was sourced from.

The improper disposal of the trimmed off carcass parts and tubercles will help maintain the disease in the wild among animals that scavenge around the slaughter slab according to WHO [12], ferals are reservoirs of *M. bovis.*

Bovine tuberculosis is among the 7 neglected endemic zoonotic diseases in developing countries and its awareness is low [13], therefore efforts should be made to create awareness of the disease especially among people butchers and other abattoir workers.

CONCLUSIONS

The lack of attention given to meat inspection in developing countries like Nigeria has deleterious effects on both its human and animal population.

The continual refusal of butchers and other abattoir workers to collaborate with meat inspection officers will impede the efforts of both government and Veterinarians/meat inspection officers in the eradication of zoonotic diseases like tuberculosis.

Continuous improper disposal of infected meat will increase the presence of feral reservoirs in the environment, thereby maintaining the source of the disease and making it difficult to eradicate.

Recommendation:

- Government should ensure that proper attention is given to meat inspection and that each abattoir/ slaughter slab has at least two veterinarians for proper meat inspection.
- Every abattoir/ slaughter slab should be ideal enough to produce meat fit for human consumption. These abattoirs/slaughter slabs should be maintained properly and their status updated frequently.
- The butchers and other abattoir workers should be literate and attend frequent trainings to update them about emerging and re emerging zoonotic diseases.
- Proper records should be kept in the abattoir/ slaughter so that zoonotic cases can be traced back to source/farm and given proper attention.
- Compensations should be given by government to farmers whose cattle, carcass/ organs are been condemned either totally or partially at ante mortem or post mortem inspections this will enable the butcher to cooperate with meat inspectors.

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