



Gross pathological conditions in eviscerated organs of cattle: The economic and public health implications in Nsukka Slaughter Slab, Enugu State

Nwankwo IO*, Ogugua AJ***, Onunkwo JI*, Njoga EO*, Njoga UJ**, Ezugwu RN* and Okafor SC†

*Department of Veterinary Public Health and Preventive Medicine, Faculty of Veterinary Medicine, University of Nigeria, Nsukka; Enugu State, Nigeria

**Department of Veterinary Obstetrics and Reproductive Diseases, Faculty of Veterinary Medicine, University of Nigeria, Nsukka; Enugu State, Nigeria

†Department of Veterinary Pathology and Microbiology University of Nigeria, Nsukka

Corresponding Author: Ogugua AJ ***, ogugua.akwoba@unn.edu.ng, 08033844475

Abstract

Gross lesions in cattle viscera result in loss of meat quality and condemnation during inspection. However, data on the effect of occurrence of gross pathological conditions in cattle viscera are scarce in Nigeria. This study therefore was undertaken to determine the occurrence of gross lesions in cattle viscera and its economic implications in Ikpa Slaughter Nsukka.

Gross pathological lesions were found in all of the 545 cattle carcasses examined post mortem. Lesions of fascioliosis, liver tuberculosis, Liver cirrhosis, lung tuberculosis, pneumonic lung, congested lung, blood retention in the heart, pimply gut and paramphimosis were observed in 1 (0.18%), 33 (6.06%), 11 (2.02%), 216 (39.63%), 38 (6.97%), 501 (91.93%), 200 (39.69%), 545 (100%) and 545 (100%) of the slaughtered cattle respectively. This was estimated to the cost of N1, 532,300.00. Moreover, this reduces the profit and encourages unwholesome practices by the butchers and expose consumers to zoonotic disease infections. There is need to for government to make disease control policies in Nigeria.

Keywords: Cattle, Cost, Gross lesions, Occurrence, Public health

INTRODUCTION

Organs and offal from cattle provide meat and serve as special delicacies in Nigeria. In the country, there is increase in population which has resulted in rise in demand for animal protein (Bala *et al.*, 2011). Presence of pathological conditions in the viscera of cattle poses a major challenge to meet the demand (Ola-Fadunsin, 2017). With the lack of policy for control, livestock diseases of economic and public health importance abound in the country. This is exacerbated in no small way by the fact that 90% of livestock population are reared by nomadic Fulani herdsman (Bertu *et al.*, 2010). Also a sizable number of cattle slaughtered in the country is imported from neighboring countries without quarantine (Ogundipe, 2001). In addition, the butchers in Nigeria engage in high risk practices that expose them and the consumers to infection with zoonotic diseases (Hambolu *et al.*, 2013). There is therefore risk of economic loss to the butcher who purchases the animal with pathological condition and zoonotic infection to the consumer. With little or no ante-mortem inspections, which are common in Nigeria, detecting such animals are most likely during post mortem inspection. Studies on the presence and economic effects of pathological conditions in viscera of cattle are however, scarce in available literature. This study therefore, used post mortem



inspection techniques based on observation of gross pathological conditions to detect diseases in viscera of cattle in Nsukka Enugu State.

RESULT

Gross pathological lesions were observed in the viscera of the 545 cattle examined. The losses due to the conditions were estimated at the total cost of N1, 532,300.00. Out of the 545 cattle examined, 99 (18.17%) had fascioliosis, liver tuberculosis was recorded in 1 (0.18%), liver cirrhosis occurred in 33 (6.06%), lung tuberculosis in 11 (2.02%), pneumonic lungs in 216 (39.63%), congested lungs in 38 (6.97%), blood retention in the heart occurred in 501 (91.93%), pimply gut in 200 (39.69%) while 545 (100%) cases of paramphistomosis were observed (Table I).

The economic losses due to the presence of lesions in the different organs was calculated presuming the average carcass weight of 3.85kg for both liver and lungs at the cost of N1000.00 per/kg (Lamidi *et al.*, 2004). For the liver, a total of N512, 050.00 was estimated from N381, 150.00 (99x3.85x1000) due to fascioliosis; N3850.00 (1x3.85x1000) due to tuberculosis (TB) and N127, 050.00 (33x 3.85x1000) as a result of cirrhosis. In the lungs a total of N1, 020,250.00 were estimated: N42, 350.00 (11x3.85x1000) due to TB; N831, 600.00 (216x3.85x1000) for pneumonic lesions and N146, 300.00 (38x3.85x1000) from congestion.

TABLE I: Gross pathological conditions in visceral organs of cattle at Nsukka slaughter

Organs	Lesions/Conditions	N (%)
Liver	Fascioliosis	99 (18.17)
	Tuberculosis	1 (0.18)
	Cirrhosis	33 (6.06)
Lung	Tuberculosis	11 (2.02)
	Pneumonia	216 (39.63)
	Congestion	38 (6.97)
Heart	Ventricular Blood retention	501 (91.93)
Rumen	Paramphistomosis	545 (100)
Rumen	Paramphistomosis	545 (100)
Small intestine	Pimply gut	200 (39.69)

DISCUSSION

The high occurrence of gross pathological conditions among cattle slaughtered in the Nsukka slaughter slab, could be due to the general lack of policy for the control of livestock diseases in Nigeria (Ibironke *et al.*, 2008). Also while pastoral system used in rearing of most cattle slaughtered in the Nsukka slaughter house predispose cattle to many diseases (Mbuk *et al.*, 2011). Moreover, imported ones were not quarantined at the borders (Ogundipe, 2001). In addition, veterinary care is not readily available in remote places from where these animals are sourced from (Onunkwo *et al.*, 2003). This is very important given that the available animal protein in Nigeria is below the recommended FAO requirement. The importance of slaughtering healthy animals cannot be overemphasized given that the butchers' economy and the public health need to be protected through proactive prevention of sick animals' slaughter through ante-mortem inspection. Also, getting the nomads in Nigeria settled in ranches will also mean production and slaughter of healthier animals.



Our results showed a huge economic loss due to pathological conditions in the viscera of the animals examined. This is important given that government does not compensate for carcasses condemned in the abattoir due to disease (Ejeh et al., 2014). This has resulted in the reported resistance of butchers to proper postmortem inspection in the abattoirs in Nigeria (Iheanacho et al., 2012). Also, with the harsh economic realities in the country today the butchers and indeed the nation cannot afford to continue to lose money due to condemnation of contaminated meat in the abattoirs. Such losses affect the GDP of the country negatively.

The study also detected cases of suspected TB in the organs examined. This is important given that Nigeria is among the six countries accounting for 60% new cases of the disease in 2015 (WHO, 2016) and one of the top three (India, 25%; Indonesia, 16% and Nigeria, 8%) of the ten countries accounting for 76% of the total reported cases in the world (WHO, 2017). Considering the fact that butchers in Nigeria engage in such practices as consuming and selling organs with TB lesions (Hambolu et al., 2013), the end TB strategy of the WHO, OIE, & FAO, (2017) may elude the country.

Conclusion

The study recorded gross pathological lesions of diseases of economic and public health importance.

Recommendations

Government should make and implement policies for the control of livestock diseases in Nigeria. There is also the need for improved abattoir facilities, adequate meat inspection and awareness campaigns to butchers, cattle traders, meat sellers and consumers on the importance of safe and wholesome meat.

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