

Internal Organs Pathological Lesion Study of Small Ruminant Slaughtered at Bachirawa Abattoir Ungogo, Kano State, North-Western Nigeria

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Abstract:

The research was conducted to assess the condition of the internal organs (liver, lung, heart, and small intestine) of slaughtered sheep and goat at Bachirawa abattoir in Ungogo local government, Kano state. A total of 23,638 sheep (both sexes) and 36,700 goats (both sexes) were slaughtered between August and October, 2012 which were used for the study. The organs were examined on the spot visually and through palpation or incision to identify abnormalities. Descriptive statistical analysis using simple percentage was used to analyze the data collected. The results indicated that, major pathological conditions were Faciolosis (5.71% in sheep, 4.09% in goats), Tuberculosis (4.32% in sheep 3.13% in goats), Pericarditis (3.86% in sheep 2.76% in goats), Contagious Caprine Pleuro-pneumonia (0.88% in sheep 0.68% in goats)-CCPP, round worms (2.96% in sheep 25.07% in goats) and tape worms (30.98% in sheep 21.66% in goats) infestations. Out of the 12,762 infected organs examined in goats, 990 (66%) liver, 828 (59%) lungs, 712 (70%) heart and 6,240 (70%) small intestine were partially salvaged. While, 510 (34%) liver, 572 (41%) lungs, 300 (30%) heart and 2,610 (30%) whole organs were condemned. In sheep 11,497 were examined and 933 (69%) liver, 799 (65%) lungs, 502 (55%) heart and 5,940 (74%) small intestines were partially salvaged. While, 414 (31%) liver, 428 (35%) lungs, 410 (445%) heart and 2,068 (26%) intestines whole organs condemned. The results of this study revealed the incidence of zoonotic diseases (CCPP and Tuberculosis) and highest occurrence of worm infestation in the slaughtered small ruminant at the abattoir. This necessitates the need for increase in the number of meat inspectors for proper record update which could be used by relevant authority in planning preventive and control programs.

Keywords — Abattoir, Meat organs, Salvation, Condemnation.

I. INTRODUCTION

Slaughter houses popularly known as abattoirs provide an excellent opportunities for detecting diseases of both economic and public health importance [13]. Frequent encounters of bovine pathological lesions in the lungs, heart, intestine, kidney and liver have been constant features in the annual reports of various government stations in Nigeria [5], [12], [4].

Meat inspection records are among important sources of data on prevalence of diseases [10]. A good abattoir should have

records of various animal diseases encountered. This is important for finding out trends of animal diseases, outbreak of particular diseases and the various farms or towns from which such animals were purchased. The data collected can be used in back-tracking to farms or towns, in order to detect disease outbreaks and plan control programs. In Nigeria, such records have been used to determine the prevalence rates of infectious and parasitic diseases in the past.

Meat is a perishable commodity, and poor handling daily can exert both public health and economic toll on any nation, and

there should be no room for complacency over problems of meat hygiene, either in developed or in the developing countries. Marketing and sale of meat require that animals be inspected before and after slaughter, that meat hygiene service functions in such a way as to satisfy consumers and at the same time safeguard public health and animal hygiene [7], [11]. In developing countries like Nigeria, outlets for the purchase of meat are numerous and are not adequately monitored [15]. It has been observed that most meat slaughtered is not inspected by veterinary surgeons in Nigeria [3]. Very poor meat inspection facilities and uncooperative attitude of butchers has also been reported in Nigerian abattoirs [1], as part of the problems militating against proper meat inspection.

A wide variation has been recorded in the incidence of abnormalities found over different geographical locations. These findings are affected by various factors such as the degree of veterinary supervision and critical appraisal of abnormalities by the person carrying out the survey [2], [14]. It is necessary to know the extent to which the public is exposed to zoonotic diseases as observed in abattoirs. In addition, the financial implications of condemnation to the butchers in terms of meat may be substantial [4], [9].

Bachirawa abattoir is the major slaughter house in Ungogo local government and most of the animals are brought from within and outside the area for slaughter. Therefore, the safety of food consumed by inhabitants of Ungogo and its neighbouring local governments is of public health significance. This study was carried out to provide information on the disease conditions encountered at slaughter in this abattoir and consequently, serve as an aid in planning disease control programs.

II. MATERIALS AND METHODS

A. Study Area

The research was conducted at Bachirawa abattoir in Ungogo Local government area Kano state, north-western Nigeria. The research area is located at the northern part of Kano Metropolitan and have common border with Dala, Dawakin Tofa, Minjibir, Gwale, Fagge, Kumbotso and Tofa Local governments in the state.

B. Post slaughter examination

The records of number of small ruminant slaughtered and the organ lesion(s) observed and condemned were noted by meat inspector. Post slaughter examination involved visual examination of carcasses and organs with keen attention being directed to livers, lungs, hearts, and gastrointestinal tract. Through palpation and incision of suspected organs, gross pathological lesion of each diseased organ was established and recorded as described by [8]. Meat inspection was carried out at the abattoir by trained meat inspectors under close supervision of Veterinarians. Data obtained were analysed to generate means and percentages [17].

III. RESULTS

A total of 60,338 small ruminants were slaughtered at the Bachirawa abattoir for the period under study (August – October, 2012). The pathological disease conditions observed in the slaughtered sheep and goats were presented in Table 1. The results indicated that, major pathological diseases were Faciolosis (5.71% in sheep, 4.09% in goats), Tuberculosis (4.32% in sheep 3.13% in goats), Pericarditis (3.86% in sheep 2.76% in goats), Contagious Bovine Pleuro-pneumonia-CBPP (0.88% in sheep 0.68% in goats), round worms (2.96% in sheep 2.45% in goats) and tape worms (30.92% in sheep 21.66% in goats) infestations.

Table 1: pathological diseases observed in slaughtered small ruminants Bachirawa abattoir

SN	diseases	Number of organs		% occurrence	
		sheep	goat	sheep	Goat
1	Faciolosis	1,359	1,500	5.71	4.09
2	Tuberculosis	1,020	1,150	4.32	3.31
3	Pericarditis	912	1,012	3.86	2.76
4	CCPP	207	250	0.88	0.68
5	Tapeworms	7,308	7,950	30.92	21.66
6	Round worms	700	900	2.96	2.45

Total	11,497	12,762
n ₁ = 23,638 means number of sheep and n ₂ =36,700 number of goats slaughtered		

Table 2 shows the result of organs condemnation of both sheep and goat slaughtered at the abattoir. Out of the 12,762 infected organs examined in goats, 990 (66%) liver, 828 (59%) lungs, 712 (70%) heart and 6,240 (70%) small intestine were partially salvaged. While, 510 (34%) liver, 572 (41%) lungs, 300 (30%) heart and 2,610 (30%) small

intestine whole organs were condemned. In sheep 11,497 were examined and 933 (69%) liver, 799 (65%) lungs, 502 (55%) heart and 5,940 (74%) small intestines were partially salvaged. While, 414 (31%) liver, 428 (35%) lungs, 410 (45%) heart and 2,068 (26%) small intestines whole organs condemned.

Table 2 : organs condemnation of slaughtered sheep and goat at Bachirawa abattoir

specie	Organs	reasons	% extent for condemnation	
			Partial	Total
sheep	Liver	faciolosis	933 (69%)	414 (31%)
	Lungs	Tuberculosis/CCPP	799 (65%)	428 (35%)
	Heart	pericarditis	502 (55%)	410 (45%)
	Small intestines	worms	5,940 (74%)	2,068 (26%)
goat	Liver	faciolosis	990 (66%)	510 (34%)
	Lungs	Tuberculosis/CCPP	828 (59%)	572 (41%)
	Heart	pericarditis	712 (70%)	300 (30%)
	Small intestines	worms	6,240 (70%)	2,610 (30%)

IV. DISCUSSION

The results of this research reported high prevalence of tapeworms infestation in slaughtered small ruminants than other pathological diseases. The worms infestation was higher in sheep (30.92%) than in goats (21.66%). The highest incidence of worms in this research may be attributed to the season, grazing area and probably lack of routine deworming of the animals.

CCPP being the disease condition with the lowest incidence (0.88% in sheep and 0.68% in goats) was higher than that reported by [16]. The author reported 0.01% CBPP prevalence in cattle slaughtered at Zango abattoir in Zaria. The values of tuberculosis incidence (4.32% in sheep and 3.13 in goat) recorded in this report does not agree with the findings of [16] and [6]. They both reported to observed 0.01% incidence of tuberculosis in cattle. The higher value obtained in this report may be due to absence of veterinary services and regular contact between the ruminant and humans.

Partial organs condemnation in this research was higher (55%) than those recorded

by [13], who reported 25% organs partially condemned in cattle. The lowest total condemnation of organs recorded in this report (45%) disagreed with those of [13] and [6], who recorded 75% and 88.38% respectively.

CONCLUSION/RECOMMENDATIONS

The high incidence of zoonotic diseases (CBPP, tuberculosis and worms infestation) observed during the period under study necessitate the need for improvement in meat inspection procedures in the abattoir. There was also lack of ante-mortem inspection which was due to inadequate number of meat inspectors. This calls for improved control and preventive measures such as regular deworming and improved veterinary services in the area.

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