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Short Communication

A RETROSPECTIVE STUDY OF LIVER FLUKE DISEASE IN CATTLE BASED ON ABATTOIR DATA IN AGEGE, LAGOS, NIGERIA.

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Liver flukes are trematodes that are commonly found in livestock in Nigeria and are more often encountered during routine post mortem meat inspection at the abattoir. The disease leads to total or partial condemnation of liver tissue. The causative agent of liver fluke disease is *Fasciola specie* [1]. The specie commonly encountered in cattle in Nigeria (Africa) is *Fasciola gigantica* [2]. Liver fluke disease is thus commonly known as Fascioliasis. Fascioliasis in domestic animals leads to socio-economic losses to the farmers, traders and the general populace and the disease can also infect humans directly from animals or indirectly following consumption of water cress or plants containing encysted metacercaria, thus its zoonotic implication to humans [2, 3]. There is, however, lack of adequate epidemiological data on the prevalence of fascioliasis in humans in Nigeria. Hence, evaluating the prevalence in cattle from abattoir records may prove useful in assessing the potential risk to humans. This study was, therefore, conducted to estimate the prevalence of liver fluke disease in slaughtered cattle at the Agege abattoir and lairage, Lagos State between 2004 and 2007 from the available abattoir records.

To this end, a retrospective survey was conducted between 1st August 2004 and 31st August 2007. Daily visits were also carried out to the abattoir from 15th November 2007 to 15th January, 2008 to get first hand experience of the situation and ascertain the daily incidence of the condition in slaughtered cattle. Cattle slaughtered at the abattoir were from the different parts of Northern Nigeria (Kwara, Kogi, Niger, Kano, Sokoto, Maiduguri, Benue and so on) as well as parts of West Africa countries including Niger, Chad, Cameroon, Mali, Burkina Faso [4] to mention but a few.

The daily occurrence and condemnation of bovine liver by meat inspection officers during their routine meat inspection activities at the Oko-Oba abattoir and lairage at Agege area of Lagos Nigeria was computed and recorded as monthly and subsequently yearly reports of abattoir condemnations. The flukes were examined macroscopically and identified based on gross appearance. The results were then subjected to statistical analysis.

Over the three-year period that the study was carried out, a total of 1,170,492 cattle were slaughtered at the abattoir with a monthly slaughter figures ranging between 21,875 and 37,070 over the survey period. Meat inspection officers at the abattoir condemned a total of 9,561 liver tissues during routine meat inspection. Out of this, 2,073 liver tissues were subjected to total condemnation while 7,488 liver tissues were partially condemned to varying degrees. Of all the liver tissues condemned, fascioliasis was responsible for 88.14%; this ranged from 11.94% total condemnation to 88.06% being due to partial condemnation. The remaining liver condemnation totaling 1,133 liver tissues (11.86% of all liver tissues condemned) were due to some other causes such as tuberculosis, liver cirrhosis and liver abscess. Tuberculosis accounted for 520(5.44%) of all the liver tissues condemned with 518 tissues totally condemned and 2 liver tissues partially condemned; liver cirrhosis accounted for 178(1.86%) of the total liver tissue condemnation with 115 and 63 tissues being due to total and partial condemnation respectively. In the same vein, liver abscess

accounted for 434 (4.54%) of the liver tissue condemnation with 432 tissues totally condemned and 2 liver tissues partially condemned.

Table 1 below shows the annual slaughter figure at the Oko-Oba abattoir and lairage in Agege area of Lagos State, Nigeria with the figures reflecting the liver condemnation due to all the itemized diseases and their rate of occurrence during slaughter.

The finding from this survey shows that hepatic fascioliasis is the most common cause of liver condemnation at the Oko-Oba abattoir and lairage in Lagos. This is in agreement with the work of previous researchers in similar studies [5, 6, 7, 8, 9]. There is, however, no seasonal variation in the rate of liver condemnation due to fascioliasis over the entire study period. It is generally expected that the incidence of fascioliasis will be higher during the rainy season, which favors the survival of snails (the intermediate host of the metacercaria) on herbage during grazing. This is, however, not the case. This may be explained by the fact that liver fluke disease is a chronic disease and the infected livers condemned during the dry season may have been infected during the rainy season and continue to harbor the infection during the dry periods till the next rains begins. This may be the cause of most condemnation due to liver cirrhosis as the liver is chronically damaged over a long period of time before the animals are slaughtered.

It is also known that most farmers in the region practice extensive farming system and there is little or no veterinary input [10]. They do not de-worm their animals routinely and when they do, it is without veterinary supervision and thus often under-dose the animals. This may also account for the high incidence of fascioliasis in the bovine liver at slaughter. There is also no attempt at snail control on grazing sites as the animals are grazed wherever forage is available

From the result obtained, it is clear that liver fluke disease (Fascioliasis) is a fairly common condition in cattle slaughtered at the Oko-Oba abattoir and lairage in Agege, Lagos. This calls for serious concerted effort to reduce this trend in order to minimize the associated losses making more liver tissue available for public consumption. Efforts aimed at decreasing the disease prevalence should include routine de-worming of animals, control of snail reservoir host on specifically stipulated grazing sites, proper education of farmers to improve animal well-being as well as regional (West Africa) cooperation to combat the disease as cattle slaughtered on the abattoir are from various parts of Nigeria and West Africa. This study will also present a record, which can be used as reference in future monitoring of the disease trend in the abattoir and other abattoirs in Nigeria.

Table 1: Occurrence of liver condemnation during routine meat inspection at Agege Abattoir Lagos

Period	**Aug-Dec, 2004**		**Jan-Dec, 2005**		**Jan-Dec, 2006**		**Jan-Aug, 2007**		**Total**
Total cattle slaughtered	156, 953		381,855		402,139		229,545		**1,170,492**
Condemnation /Condition	T	P	T	P	T	P	T	P	
Fascioliasis (Liver fluke disease)	165	1,005	546	2,273	207	2821	88	1322	**8,427**
Tuberculosis	161	Nil	167	Nil	172	2	18	Nil	**520**
Liver Cirrhosis	1	11	Nil	Nil	114	52	Nil	Nil	**178**
Liver Abscess	93	Nil	181	2	96	Nil	62	Nil	**434**
Total	**420**	**1,016**	**894**	**2,275**	**589**	**2,875**	**168**	**1,322**	**9,561**

Note: T = Unit of liver tissue totally condemned

P = Unit of liver tissue totally condemned

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