

Foetal wastage in camels slaughtered at Sokoto municipal abattoir

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Abstract

The Slaughter of camels at the Sokoto municipal abattoir was evaluated over a five months period from March July, 2007 with the aim of determining foetal wastage due to the slaughter of pregnant camels. Out of the 1174 camels slaughtered during the study period, 592 (50.4%) were females. A total of 137 fetuses were recovered which represent a foetal recovery rate of 23.99%. Attempt was also made to recover some conceptus and embryos by flushing the uterus. Fifty three (53) uteri from genitalia with positive signs of pregnancy were flushed during and 12 (22.64%) had conceptus. Estimated economic loss due to the slaughter of pregnant camels in Sokoto abattoir stands at N24, 960,000 for a period of 10 years. It was concluded that Law against the slaughter of pregnant animals should be enforced. Adequate ante-mortem inspection, literacy campaign amongst butchers should be intensified as effort to improve camel population in this country.

Keywords: Faetal Wastage, Camels, Abattoir

Introduction

The *camelids* have been known to be capable of withstanding harsh conditions characteristic of the semi-arid and arid regions because of their peculiar morphologic and physiologic features (Garba *et al.*, 1992). Camels as drought animals play a pivotal role in the economy of developing countries in the form of being a source of meat, milk, hides and transport means (Raza, 2000) In spite of this importance, camel has rarely received the attention it merits (Umaru, 2002).

The devastation of cattle population by drought and rinderpest in the Sudano-Sahelian zone of the country in 1980's has shifted attention to camels which are known to be less affected by these factors. Consequently, Nigeria continues to import camels from neighbouring countries such as Sudan, Ethiopia and Somalia in order to supplement the declining sources of animal protein. The slaughter of pregnant animals is a major cause of economic loss that could place camels on the list of endangered species. Since it is known that the slaughter of camels for meat is on the increase, there is danger in the continuous depletion of the camel population through the slaughter of pregnant camels for meat (Ataja, and Uko, 1994). Indeed the slaughter of pregnant animals is a well recognized

source of wastage especially by abattoir personnel and recently by animal scientists and veterinarians (Ojo *et al.*, 1977; Ataja *et al.*, 1997).

The destruction of foetuses due to the slaughter of pregnant animals is forbidden by law in nearly all countries of the world (ECA, 1988). Despite the existence of the law, Ojo *et al.* (1977) encountered 1043 foetuses in one year at the slaughter houses of Yaoundé, Republic of Cameroon. Hamman *et al.* (1997) reported that a more accurate picture of foetal wastage would perhaps be observed if retrograde flushing of embryo was performed immediately from the uteri to recover pre-implanted and implanted embryos. The fact remains that in as much as the demand and consumption of camel meat is on the increase, pregnant camels continue to be slaughtered and little or no effort is made towards improving camel population in the country, then the total population figure for the camel will drastically decline.

In view of the important roles camels play in supplementing proteins of animals origins in the diet of Nigerians, Ataja and Uko (1994) noted that there is need to arrest the slaughter of pregnant camels in our abattoirs.

The aim of this study was to determine the level of foetal wastage from the slaughtered camels in Sokoto municipal abattoir and estimate the

economic loss due to the slaughter of such pregnant animals.

Materials and Methods

The study was conducted at the Sokoto municipal abattoir from March July 2007 through a daily visit to the abattoir between 7 am – 9am for data collection.

The female reproductive tracts of the slaughtered camels were examined for evidences of pregnancy. The ovaries were examined for the presence of ovarian structures and corpora lutea all for signs suggestive of pregnancy. The uterine horns and bodies were inspected and palpated for changes suggestive of pregnancy. The uterus was then opened up and checked for the presence of foetuses. Where the foetuses were found, their sexes were determined. Foetuses recovered were expressed as the percentage of the total female camels slaughtered.

Where the ovaries showed corpus luteum and other structures suggestive of pregnancy with no foetus in the uterus, the uteri were collected and checked for the presence of embryos.

Incision was made along the long axis of the uterine body through the left and right uterine horns. The uterine endometrium was flushed with 40ml of physiologic saline solution using a 20ml syringe. The embryo recovery medium (physiologic saline solution) was then collected back into a dish where it was allowed to settle down for about 30 minutes. The sediments of the collected embryo recovery medium was then poured into Petri dishes which were mounted onto a stereomicroscope and viewed by being moved from one microscopic field to the other until all the microscopic fields were

adequately checked for the presence of embryos at various stages of development.

Economic loss was estimated using procedures of Ribadu, (1988).

Results

Within the study period, the total number of camels slaughtered was 1174 of which 592 (50.4%) were females and 582 (49.6%) were males. The highest monthly slaughter was recorded in May (268) while the lowest recorded camel slaughter figure was in July (210). Of the 582 female camels slaughtered during the period, 137 had foetuses in various trimesters (Table 1).

Foetuses recovered, expressed as percentage of the slaughtered female camels on monthly basis are shown on table 1. The monthly percentage foetal wastage ranges from 18.85 to 31.25 with the mean percentage monthly foetal wastage being 23.99. The highest recorded number of foetuses was 40 (May) with 65% of the foetuses being females.

Of the total foetuses encountered during the study period, 62 (45.26%) were males and 75 (54.74%) were females. The average monthly sex ratio for the recovered foetuses was calculated to be 47.67: 53.33 (Table 2).

Within the study period, a total of 53 uteri were flushed, for embryo recovery; 12 however revealed embryos at various stages of organogenesis while 41 (77.4%) were negative for embryos.

Financial loss over a 10 year period due to the slaughter of 341 pregnant camels at the Sokoto abattoir in a single year was estimated at ₦24,960,000.

Table 1
Slaughtered Camels and Fetal wastage in Sokoto Abattoir from March to July 2007

Month	Number of slaughtered camels	Male camels slaughtered	Female camels slaughtered	Fetuses recovered	% fetal wastage
March	214	102 (47.66%)	112 (53.34%)	22	19.64
April	241	119 (49.38)	122 (50.62%)	23	18.85
May	268	116 (43.28%)	152 (56.72%)	40	26.32
June	241	149 (61.83%)	92 (38.17%)	22	23.91
July	210	114 (54.29%)	96 (45.71)	30	31.25
Total	1174	582	592	137	23.99

Table 2
Male: Female Fetal Ratio From March to July 2007

Month	Male fetuses	Female fetuses	% sex ratio
March	12	10	54.55 : 45.45
April	12	11	57.14 : 42.86
May	14	26	35.00 : 65.00
June	10	12	45.45 : 54.55
July	14	16	46.67 : 53.33
Total	62	75	47.76 : 52.24

Discussion

Results from this study indicate that foetal wastage may be occurring on a massive scale in our abattoirs. The average slaughter was 115, with percentage foetal wastage of 23.99%. This agrees with the 24.06% obtained by Ataja *et al.* (1997) in bovine from the same abattoir. The result could be said to be similar to the findings of Wosu (1988) who obtained percentage foetal waste of 26%. However the result of this study vary greatly from the observations of Ojo *et al.* (1977) and Ribadu (1988) who obtained 50.9% and 49.64% respectively. This variation may be due to the fact that little or no camels were considered for meat in the past. But with current increase in the contribution of camel meat to daily animal protein requirement (Agaie *et al.*, 1997) which will consequently lead to slaughter of more camels this figure has tendency of increase.

The proportion of female camels slaughtered were found to be higher though statistically insignificant ($P > 0.05$). The high demand of male camels for traction which translates into high cost of male camel could be responsible because butchers do go for females that are much cheaper in order to maximize profits. Williams and Payne (1978) stated that male camels are undoubtedly the best workers.

The average sex ratio (male to female) of recovered fetuses in this study was 47.76 to 52.24. This value is very similar to report of Shalash (1964), Ribadu, (1988) and Umaru, (1997) who obtained 47.48 to 52.52, 47.2 to 52.8 and 47.48 to 52.52 male to female ratio respectively.

From the flushed uteri, 22.64% were positive of embryos. All the recovered embryos were at their early stages of organogenesis. No embryo was recovered at either morula or blastula stages. The absence of embryo in 41 (77.36%) uteri that showed a strong sign of pregnancy (prominent corpora lutea) on the ovaries could be attributed to the nature of ovulation in camels. As in cows, camels usually produce one ovum after each oestrus. Since those camels from which uteri were obtained were not super ovulated before being slaughtered, there was less likelihood of recovering embryos from the uterus flushing.

The economic implication of foetal wastage is indeed enormous. From the results obtained in this study, the economic loss over a 10 year period from the slaughter of 341 pregnant camels at Sokoto abattoir in a single year may be as high as twenty four million, nine hundred and sixty thousand naira (N24, 960, 000. 00). Umaru, (1997) reported an annual loss of N 828, 000 from the same abattoir. Similar projections of about six million Naira (N6, 000,000) were made by Ribadu (1988) from the slaughter of 4500 pregnant camels at Kano abattoir. More so, ECA (1988) reported that the slaughter of pregnant cows in Nigeria averages to 17000 per year resulting in an estimated financial loss of at least fourteen million US dollars (\$14, 000, 000) in over 10 years.

In conclusion, the daily financial loss resulting from the slaughter of pregnant camels nationwide is enormous and this seems to continue in as much as the demand and consumption of camel meat is in the increase. Law against the slaughter of pregnant animals should be enforced. Adequate ante-mortem inspection, literacy campaign amongst butchers should be intensified as effort to improve camel population in this country.

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