

BACTERIAL ISOLATIONS FROM PNEUMONIC GOATS IN ZARIA

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Abstract

Thirty goats were sampled for pneumonia-causing bacteria. The breeds of goats sampled were the Kano Brown and Sokoto Red. The bacteria isolates were *Pasteurella* sp. (30), *Staphylococcus* sp.(16), *Moraxella* sp. (5), *Corynebacterium* sp. (2) and *Streptococcus* sp. (12). *Pasteurella* sp. was found to have the highest percentage of the isolates.

Key words: Pneumonia, Caprine, Bacteria, Isolation

Introduction

In Nigeria, small ruminants (sheep and goats) constitute about 35% of the total meat supply (FAO, 1995). It appears that sheep and goats could go a long way to help offset the protein deficiencies which are fairly rampant in the country. There is a growing appreciation of the importance of goats in small-scale integrated farming system in developing countries (Devendra and McIeroy, 1992).

Pneumonia is a respiratory disease that is distributed worldwide. Various organisms such as viruses, bacteria or even a combination of both, fungi and parasites, can cause pneumonia.

The incidence of pneumonia is aggravated in the local goats by poor nutrition and inclement weather (Lovelace *et al.*, 1993). Stress of weaning, transportation and poor ventilation, and poor housing all contribute to the susceptibility of the animals in addition to the presence of the infectious agents.

In this paper, the preliminary report of a survey for pneumonia-causing bacteria in goats in the Zaria area is given.

Materials and Methods

Nasal swabbing was carried out for a period of three months during the cold dry season, from goats with nasal discharges using sterile swab sticks. Thirty different samples were inoculated onto Blood agar (5% sheep blood) and MacConkey agar and incubated at 37 degree Celsius aerobically for 18-24 hours. Isolates were identified as described by Carter (1987).

Results

From the 30 samples inoculated, the isolates obtained are as shown in Table 1.

Table 1: Bacteria isolated from nasal cavity of goats

Bacteria species	No. of isolates	% of isolates
<i>Pasteurella</i> sp.	30	46.15
<i>Staphylococcus</i> sp.	16	24.62
<i>Streptococcus</i> sp.	12	18.46
<i>Corynebacterium</i> sp.	2	03.08
<i>Moraxella</i> sp.	5	07.69
Total	65	100

The *Pasteurella* species were haemolytic on blood agar and were indole negative indicating *Pasteurella haemolytica*.

Discussion

In Nigeria, goats are steadily becoming important as a source of animal protein and as source of income for people in the traditional rural farming sector. The isolation of *Pasteurella* sp. which cause pneumonia in goats is consistent with the findings of other workers (Dautre and Perreau, 1993; Jamshidi *et al.*, 1995). *Pasteurella* sp. are commonly found in nasal cavity, tonsils and buccal cavity of ruminants and under certain circumstances can invade lungs and cause pneumonia (AT-Tarazi and Dangnall, 1997). However, *Pasteurella haemolytica* have been observed to occur naturally in goats (Loganthan and Chandrasekaran, 1992).

The isolation of *Staphylococcus* sp. (24.62%) and *Streptococcus* sp.(18.46%) could be due to the fact that they occur commonly on the anterior nares, skin and in saliva of animals (Buxton and Fraber, 1977). The presence of *Corynebacterium* sp (03.08%) and *Moraxella* sp.(07.69%) could be attributed to chronic

bacteria pneumonia, in which case they are involved in association with *Pasteurella* sp. (Parker, 1972).

Conclusion

Pasteurella sp. was the most frequently isolated organism in this preliminary study. Economically, caprine pneumonia is associated with poor growth and low productivity.

This work has shown that *Pasteurella* sp. may play a vital role in caprine pneumonia and needs further investigation.

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