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Epidemiological Aspects and Clinico-Therapeutic Studies in Goats with Muscle Weakness

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ABSTRACT: Twenty-eight goats were presented with different clinical manifestations of muscle weakness like muscle pain, stiffness, muscle wasting, emaciation, lameness and recumbency. All the animals were fed with both concentrates and roughages and were reared in semi-intensive type of management practice. Suitable antimicrobials, analgesics, anti-inflammatory drugs, vitamin and mineral supplements and other supportive therapies were all administered depending upon the requirement of individual cases. The highest prevalence of muscle weakness were found mostly in adult (67.86 percent) female (78.57 percent) Malabari goats (67.86 percent) that kidded twice or more (50 percent).

KEYWORDS: Muscle weakness, goats, prevalence

I. INTRODUCTION

World's second largest goat population (148.88 million) is in India. The goat productivity in India is affected by poor management practices, improper nutrition and ill health. Muscle weakness in goats has different clinical manifestations and may be associated with vitamin or mineral deficiencies, septicemia and metabolic diseases. Treating the actual cause along with supportive therapy is indicated in such conditions.

II. RELATED WORK

Omani goats with muscle weakness were selected for haemato-biochemical studies and trace mineral estimation [14]. Muscle weakness was not considered as a disease, but a clinical sign connected with a variety of diseases which reflected the severity of health problems associated [1]. Emaciation and muscle wasting in goats attributed to a variety of reasons such as hunger and malnutrition [15], parasite infestation [19] and chronic illness [9]. Trace mineral deficit might be the primary causes of muscle wasting in goats that could lead to a variety of health problems and significant financial losses [13].

III. METHODOLOGY

Twenty eight goats with clinical signs of suggestive of muscle weakness were presented to the Teaching Veterinary Clinical Complexes under Kerala Veterinary and Animal Sciences University. Muscle weakness in goats

has got multiple etiologies such as deficiency disorders, metabolic diseases, septicemia and malnutrition. Epidemiological data from goats with different clinical manifestations of muscle weakness like muscle pain, stiffness, muscle wasting, emaciation, lameness and recumbency were recorded by signalment and anamnesis. Breed-wise, age-wise, sex-wise and parity-wise prevalence was documented and were recorded in both text and diagrams. Suitable antimicrobials, analgesics, anti-inflammatory drugs, vitamin and mineral supplements and other supportive therapies were all administered depending upon the requirement of individual cases.

IV. EXPERIMENTAL RESULTS

The highest prevalence of muscle weakness was recorded in Malabari goats (67.86%) followed by 14.29 per cent in Jamunapari, 10.71 per cent in Sirohi and 7.14 percent in Beetal. This might be due to the high population of Malabari breed of goats in Kerala. The popularity of Malabari breed in Kerala due to its prolificacy, growth rate and adaptability to hot and humid areas when compared to other breeds [3]. Occurrence of disease and mortality were found to be higher in Malabari goats when compared to other breeds in goat farming conditions in Kerala [4].

Considering age as a factor, the highest prevalence was found in adult goats above one year of age (67.86%) and 32.14 percent was observed in kids below one year of age. Young ones were found to be more susceptible to muscular dystrophy than adults. Muscles of actively growing young animals were more prone to oxidative damage by higher free radical production [5, 6, 11, 12]. Clinical signs related to muscle damage also occurred in pregnant and postpartum ewes which were in concurrence with the findings of this study [7].

An occurrence rate of 78.57 per cent was noticed in females (22 out of 28 cases). Does are reared more than bucks in common animal husbandry practice for both breeding and production. Buck: Doe ratio in goat farms were reported to be 1:5.05 [9] to 1:20 [17]. Hence prevalence of female goats with muscle weakness was more than that of males.

Out of the 22 female goats presented, 11 of them kidded more than twice, seven of them had a parity of one followed by 4 goats with no parity. Clinical signs related to muscle damage mainly occurred in mature pregnant and postpartum animals apart from young ones [2, 7]. Contrary to this, muscle damage was observed in young ones and were more susceptible to nutritional muscular dystrophy with reference to other studies [5, 12].

Suitable antimicrobials, analgesics, anti-inflammatory drugs, vitamin and mineral supplements and other supportive therapies were all administered depending upon the requirement of individual cases. Certain treatment methods such as to provide nutritional support and adequate nursing care followed by physiotherapy during the rehabilitation stage for weak and recumbent animals [18]. Soft bedding and physiotherapy was recommended in recumbent cow for successful recovery [16]. Among the 28 animals treated, 16 (57.14%) showed clinical improvement by 14th day post-therapy whereas 12 (42.86%) animals did not show any improvement clinically. Among the animals which didn't show any clinical improvement, five animals (17.86%) died.

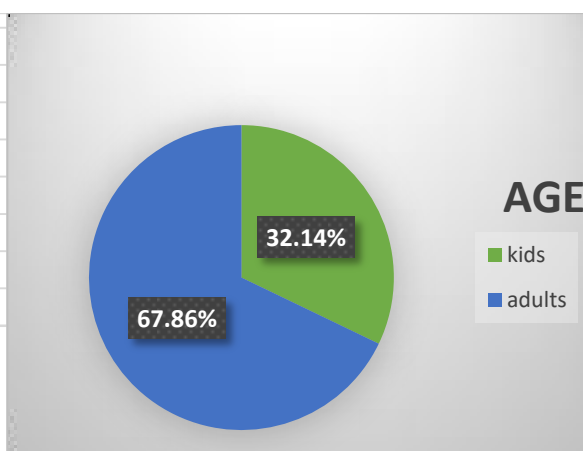
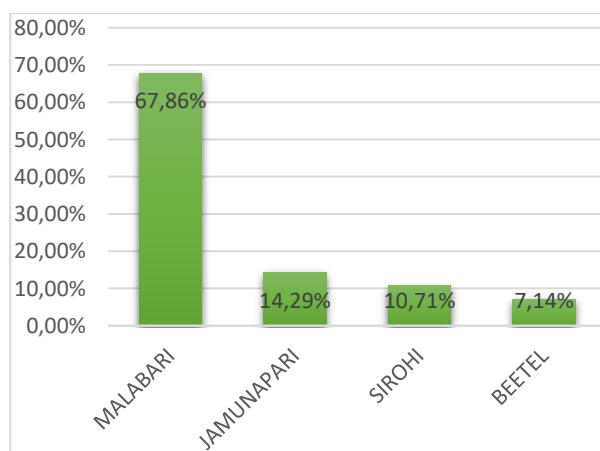


Fig.1. Breed wise prevalence of muscle weakness in goats Fig.2. Age wise prevalence of muscle weakness in goats

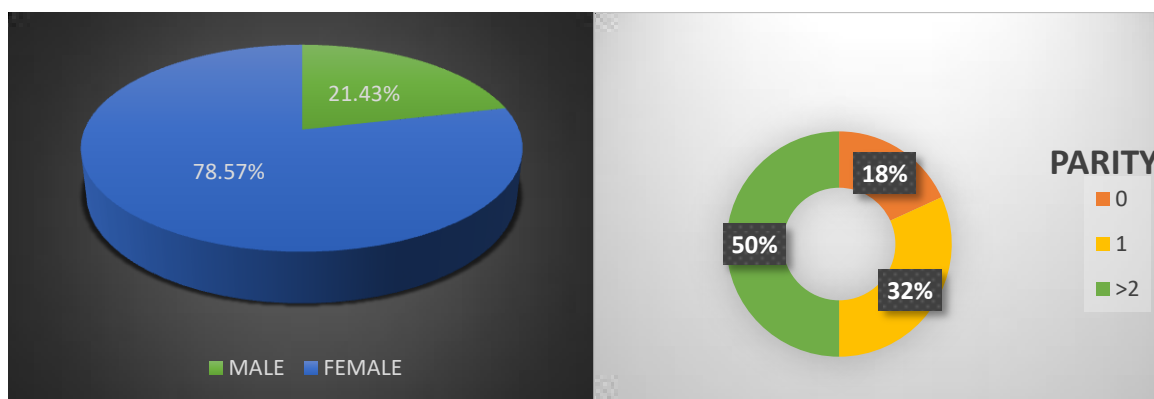


Fig.3.Sex wise prevalence of muscle weakness in goats. Fig.4.Parity wise prevalence of muscle weakness in goats

V. CONCLUSION

The highest prevalence of muscle weakness were found mostly in adult (67.86 percent) female (78.57 percent) Malabari goats (67.86 percent) that kidded twice or more (50 percent) from the 28 goats presented with different clinical manifestations of muscle weakness like muscle pain, stiffness, muscle wasting, emaciation, lameness and recumbency. Among the affected animals, 57.14% animals clinically improved and 17.86% animals died.

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