

# Case Report

## ACQUIRED INCISOR MALOCCLUSION IN AN ADULT RABBIT BUCK. A CASE REPORT

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### ABSTRACT

A rare case of dental malocclusion in an adult white chinchilla rabbit buck is reported. A diagnosis of acquired incisor malocclusion was made based on the history, physical examination of the rabbit and postmortem examination of the skull. To the best of our knowledge, this appears to be the first reported case of this condition in Nigeria. It is suggested that the condition may be more common among rabbits in Nigeria and elsewhere than the paucity of reports on the incidence. Measures to be adopted in order to forestall dental malocclusion in rabbits are discussed.

**Keywords:** Malocclusion, rabbit, incisor.

### INTRODUCTION

Malocclusion is a failure of teeth to align correctly in order to preclude further abnormal growth (Brown, 2001). The characteristic continuous growth of the teeth in rabbits, is kept in check by chewing of abrasive diets like hay and grass for the check teeth, while for the incisors, continuous growth is checked by the opposing contacts of the upper and lower incisors making contact when the jaw is at rest, hence the need for proper alignment (Swindle & Flecknell, 1996).

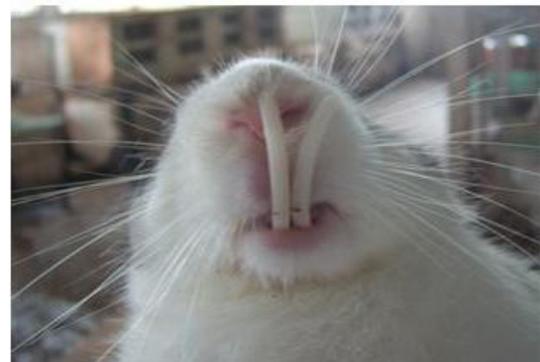
Malocclusion, may affect the check teeth or the incisors, but usually, one is secondary to the other (Brown, 2001). Malocclusion of the premolars and molars has been reported for over 50 years in individual older rabbits (Pollock, 1951; Zeman & Fielder, 1969). In some popular breeds, especially extreme dwarf and lop breeds, the incidence approaches nearly 100 per cent (Donnelly, 2002). Reports have shown that incisor malocclusion may either be acquired or congenital, with the congenital type occurring most commonly in dwarf breeds of rabbits with mandibular prognathism, while acquired incisor malocclusion occurs mainly secondary to premolar and molar malocclusion or due to nutritional osteodystrophy, tooth root or gum infections, trauma or other conditions that can distort the alignment of the teeth (Brown, 2001).

Although dental malocclusion involving the incisor have long been reported in the United Kingdom and elsewhere (Brown, 2001), there is paucity of information on its occurrence in Nigeria.

This paper describes a case of acquired incisor malocclusion in an adult rabbit in Nigeria.

### CASE PRESENTATION

An adult New Zealand buck weighing 2.5kg was presented with a dental defect hindering its adequate feeding. The animal attendant had only recently noticed an overgrown 'front teeth' (Fig. 1) and the rabbit's poor feeding and weight loss. The affected rabbit and others in the group were said to have been placed purely on commercial concentrate diets and housed in wooden cages.



**FIG. 1. RABBIT HEAD SHOWING INCISOR MALOCCLUSION**

On physical examination, the buck was observed to be emaciated with rough hair coat and had bilateral serous nasal discharge. The lower incisor was observed to be overgrown and protruded outside the mouth by about 5cm in length touching the nostrils thereby irritating the soft tissue of the external nasal cavity, and making the rabbit unable to close its mouth (Fig. 1)

Examination of the oral cavity revealed that the tongue was obstructed by an inwardly curled and overgrown upper incisor (about 2cm). The molars and premolars were also overgrown and abnormally curved. The peg teeth as well, were slightly overgrown. A tentative diagnosis of acquired incisor malocclusion secondary to dietary inadequacies was made. Despite all the treatment and management given, the buck died a few days later.

At necropsy, there was severe emaciation, dehydration and rough hair coat, pale mucous membrane and broken left lower incisor teeth. There was pulmonary congestion with focal areas of ecchymotic hemorrhages. The liver and kidneys showed focally diffused areas of paleness while the intestine had catarrhal exudate in the lumen.

## DISCUSSION

In the tropics or developing countries, rabbits are usually reared for meat, fur or experimental purposes. Feeding them fiber diets affords a great advantage not only of providing nutrients in the form of gut microbial synthesized sources of energy and essential vitamins, but also increasing the intestinal motility, speed passage of food through the gut and keeps the dental structure and the jaw in good shape (Dennis, 1991).

In this report, the rabbits were fed purely commercial diets. There is a strong possibility that many of the rabbits may have been chewing on the abrasive wooden structure of their housing to achieve a check in teeth overgrowth. Therefore, inadequacy of abrasive diets offers a good explanation on the cause and course of the condition. History further revealed that the affected rabbit was the oldest in the farm and being a virile male was thus retained for breeding.

Dental malocclusion are potential high risk disease in rabbits fed on deficient diets, however this may not be readily noticed or of much economic importance as it usually takes a long time to manifest.

Usually the lower incisor teeth grow straight out, tip and produce sharp spurs which may impinge on soft tissue, causing pain and secondary infections. The upper teeth often curl back into the oral cavity and obstruct the tongue (Kanfer, 2002). In the present case, there was failure of the oral cavity to close (Fig. 1) resulting in inability to prehend which exacerbated anorexia, weight loss, dehydration, weakness and eventual starvation which led to death.

Malocclusion can be treated or managed by dietary intervention correction and trimming or extraction of overgrown teeth (Hillyer & Quesenberry, 1997). Petty (2000) suggested giving diets with unlimited supply of hay and/or grass and avoidance of exclusively commercial or palletized diets that take short time and efforts to chew.

The occurrence of this condition is significant because of the need that may arise in commercial rabbitaries to retain particular rabbits for breeding, beyond the time required to attain market size. It is therefore important to acknowledge this dietary consideration if malocclusions of the teeth are to be avoided.

## ACKNOWLEDGEMENT

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