

## A CASE OF NON-PROGRESSIVE ATROPHIC RHINITIS IN A 3-MONTH OLD WEARNER DUROC PIG - A CASE REPORT

Egbodo, B. E.<sup>1</sup>, Oke, P. O.<sup>2</sup>, Hassan, R.<sup>3</sup>, Bello, T. K.<sup>3</sup> and Tsavker, D. T.<sup>1</sup>

<sup>1</sup>Swine and Rabbit Research Programme ([brenda4mummy@gmail.com](mailto:brenda4mummy@gmail.com); [engodvm@yahoo.com](mailto:engodvm@yahoo.com)),

<sup>2</sup>Departments of Parasitology and Entomology,

<sup>3</sup>Biotechnology Research Programme,

<sup>1,3</sup>National Animal Production Research Institute, Ahmadu Bello University, Zaria-Nigeria

<sup>2</sup>College of Veterinary Medicine, Federal University of Agriculture Makurdi-Nigeria

### Abstract

The attention of the Animal Health team of Swine section of Swine and Rabbit Research Programme of NAPRI was drawn to a weaner pen of swine unit on 30<sup>th</sup> February 2015 with a complaint of swelling and assymetry of the snout of a 3 month old Duroc weaner weighing 23.5kg. History revealed that the condition was seen 2 weeks prior to presentation with inappettance. Microbiological survey identified *Bordatella spp* and *Corynebacterium spp* from the exudate gotten from the swelling. Antibiogram revealed susceptibility to tetracycline. Tetracycline LA was given at 20mg/kg with total dosage 470mg twice 4 days apart deep intramuscularly.

**Key words:** Atrophic rhinitis; Duroc; Weaner;

### Introduction

Rhinitis is inflammation of the tissues inside the nose and in its mild form it is very common. During the process of infection the delicate turbinate bones in the nose become damaged and may shrink or become distorted (atrophy). This condition seldom causes clinical disease in the mature animal but if the breeding female has been infected early in life it could still show distortions of the face in adulthood (de Jong, 1999). There are two forms of the disease: mild and non-progressive where the infection or irritation occurs over a period of 2 to 3 weeks. However, the inflammation does not progress and the turbinate bones repair and return to normality. There are two recognized forms of AR, which include the progressive form caused by toxigenic *Pasteurella multocida* and the nonprogressive form caused by a

toxigenic *Bordetella bronchiseptica*. The form caused by *B. bronchiseptica* is not as severe as that caused by *P. multocida*, and the lesion is thought to be reversible (Tourquinst, 1995).

The disease is progressive atrophic rhinitis (PAR) where toxin producing strains of the bacterium

*Pasteurella multocida*, present in the herd cause a continual and progressive inflammation and atrophy of the tissues and nose distortion. Progressive atrophic rhinitis is a serious condition both in sucking and growing pigs (Hoskins *et. al.*, 1997). All herds will show some degree of non-progressive atrophic rhinitis.

### Case History and Clinical Examination

A 3-month old Duroc weaner was presented to the Swine unit of Swine and Rabbit Research Programme of National Animal Production Research Institute ABU Shika Zaria on the 30<sup>th</sup> of February 2015 with a chief complaint of twisting of the snout. History revealed that the weaner pig developed the condition shortly after he was weaned from the dam. Upon clinical examination sneezing, serous nasal discharges, tear staining below the medial canthus of the eye, swollen snout, anorexia, inactivity were observed. Pus was taken from the hard swelling on the snout to bacteriological laboratory for culture, isolation and sensitivity testing.

### Result

A microbiological result isolates *Corynebacteria spp.* and *Bordatella spp.*

**Table 1:** Showing antibiogram of the organisms isolated.

Antibiotic	<i>Corynebacteria spp.</i>	<i>Bordatella spp.</i>
Augmentin	R	R
Streptomycin	R	+
Tetracycline	++	++
Septrin	+	+
Chloramphenicol	+++	R
Erythromycin	+++	+++
Cloxacillin	R	+
Gentamycin	++	+++

### Management

Tetracycline LA was given at 20mg/kg with total dosage 470mg twice 4 days apart intramuscularly.



Figure 1: Showing swollen and distorted snout, and tear stained eye

### Discussion And Conclusion

Atrophic rhinitis is thought to reduce growth rates, which makes it an economically important disease for pig producers (de Jong, 1999). However, its economic importance has been variously estimated depending on whether a correlation was found between the presence of atrophic rhinitis and a reduction in growth rate (Kabay *et al.*, 1992). Nevertheless, it is very likely that in moderate to severe outbreaks atrophic

rhinitis can be of considerable economic importance (Hoskins *et al.*, 1997). An earlier proposal that severe turbinate atrophy predisposes pigs to pneumonia has not been confirmed (Straw *et al.*, 1983).

Non progressive atrophic rhinitis which is a milder form of atrophic rhinitis in an uncomplicated case will heal after 2 to 3 weeks (Tourquinst, 1995). Clinical signs usually become apparent from about 4 to 12 weeks of age onward (de Jong, 1999).

### References

- de Jong, M. F. (1999). Progressive and nonprogressive atrophic rhinitis, p. 355-384. In B. E. Straw, S. D'Allaire, W. L. Mengeling, and D. J. Taylor (ed.), *Diseases of Swine*, 8th ed. Iowa State University Press, Ames.
- Hoskins I. C., Thomas L. H. and Lax, A. J. (1997). Nasal infection with *Pasteurella multocida* causes proliferation of bladder epithelium in gnotobiotic pigs. *Vet. Rec.* 1997;140:22.
- Kabay M. J., Mercy A. R., Lloyd J. M. and Robertson G. M. (1992). Vaccine efficacy for reducing turbinate atrophy and improving growth rate in piggeries with endemic atrophic rhinitis. *Aust. Vet. J.* 69:101-103.
- Straw B. E., Burgi E. J. and Hilley H. D. (1983). Pneumonia and atrophic rhinitis in pigs from a test station. *J. Am. Vet. Med. Assoc.*, 182:607-611.