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## LONGITUDINAL FOLLOW-UP OF THE LESIONS FROM THE MULTIPLE CONGENITAL OCULAR ABNORMALITIES SYNDROME IN THE COMTOIS HORSE

### Introduction

Multiple Congenital Ocular Anomalies syndrome (MCOA) has been recently described in pure-bred french Comtois horses and is strongly related to coat color. The silver coat color occurs as a result of a dominant mutant allele at the premelanosomal protein 17 locus, on Chromosome 6. Heterozygous horses seem to be less affected than homozygous horses, the latter exhibiting a wide range of abnormalities, including temporal posterior iris, ciliary or retinal cysts, retinal dysplasia, iridal hypoplasia, megalocornea, cataracts, and retinal detachment. The ultrasound appearance of the ocular anomalies has been described, but nothing is known about their evolution over time.

The aim of this study was to determine if MCOA lesions could evolve over time. The clinical and ultrasonographic features of Comtois horses previously diagnosed with MCOA were compared.

### Material and methods

Seven horses out of 67 horses from the previous study were examined. Both eyes were assessed by direct ophthalmological examination and ocular ultrasonography. Qualitative features and biometric measurements were recorded. Data from each animal were compared with their own data from 2009 and 2010.

### Results

From the 14 eyes examined, 6 presented an increased number of iridociliary cysts, particularly in young horses that were less than 1 year old upon the first examination. The size of the cysts was higher in 4 eyes, especially in young horses. No clinical nor ultrasonographic changes were recorded for the other ocular lesions.

### Discussion and conclusion

Ocular lesions in Comtois horses diagnosed with MCOA seem quite stable over time, except for iridociliary cysts in young horses (from 1 to 6-year-old). No loss of vision was associated with this change.

As only 10% of the horses from the previous study could be evaluated, further cases are needed to accurately assess if these abnormalities could progress over time and impair vision.

### References

1. Ségard EM, Depecker MC, Lang J, Gemperli A, Cadoré JL. Ultrasonographic features of PMEL17 (Silver) mutant gene-associated multiple congenital ocular anomalies (MCOA) in Comtois and Rocky Mountain horses. *Vet Ophthalmol.* 2013 Nov 11;16(6):429-35.
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