Vertebral and behavioural problems are related in horses: A chiropractic and ethological study

Clémence Lesimple [a], Carole Fureix [b], Hervé Menguy [c], Martine Hausberger [ab]

[a] Université de Rennes1, UMR CNRS 6552 - Ethologie Animale et Humaine, Station Biologique de Paimpont, 35380 Paimpont, France
[b] Université de Rennes1, UMR CNRS 6552 - Ethologie Animale et Humaine, Campus de Beaulieu, 35042 Rennes, France
[c] Chiropractic office, 1 rue Ernest Psichari, 35136 St Jacques de la Lande, France

INTRODUCTION

Behavioural problems in horses are a common source of accident (Hausberger *et al* 2008 for a review). It represents the third cause of accidents amongst veterinarians, and 75 % of them are kicked at least once a year (Jaeggin *et al* 2005). Vertebral problems are regularly reported in riding horses (Jeffcott *et al* 1999, Landman *et al* 2004), but not always identified or noticed enough (Brauner 2009, Haüssler 1997), and horses keep being used for work.

In this study, 59 horses from 3 riding schools (44 geldings, 15 mares; 5-20 years old; mostly French saddlebred) were submitted to 5 behavioural tests assessing their attitude towards humans. In addition, a 20 years experienced licensed chiropractor, who was totally blind to the results of the observations performed during behavioural tests conducted a manual palpation in order to detect vertebral problems. Non parametric statistical tests were used to detct links between vertebral problems and human-horse relationship.

BEHAVIOURAL TESTS

Motionless person test

The experimenter stands with her back against the closed door facing inwards (5min)

Approach contact test

The experimenter stands motionless at 1.5m from the horse and tries to touch it (shoulder).

Sudden approach test

The experimenter, walking slowly along the corridor appears suddenly at the closed door of the box while the horse is feeding.

Saddle test

Same procedure as the Sudden approach test, except that the experimenter carries a saddle on her right arm and open the box door.

Halter fitting test

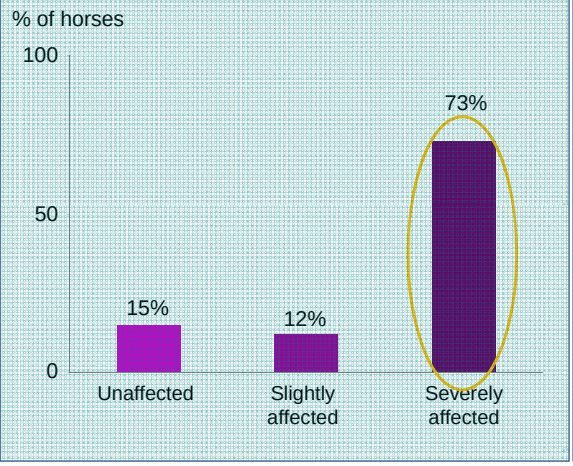
The experimenter approaches the horse, holding a halter, puts her right arm over the horse's neck and fits the halter.

CHIROPRACTIC EVALUATION

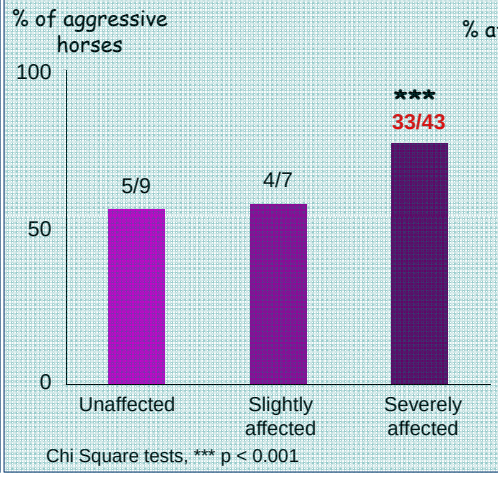
The chiropractic evaluation was performed for each horse at rest in the box, outside of working time. The horse was lightly restrained by one unknown experimenter. The horses were classified as unaffected, slightly affected (1 vertebrae affected on the all spine) , or severely affected (at least 2 vertebrae affected on the all spine). Comparisons of data from different practitioners have shown high agreement and therefore repeatability (94.28±3.69 % aggreement, Lesimple *et al*, submitted).

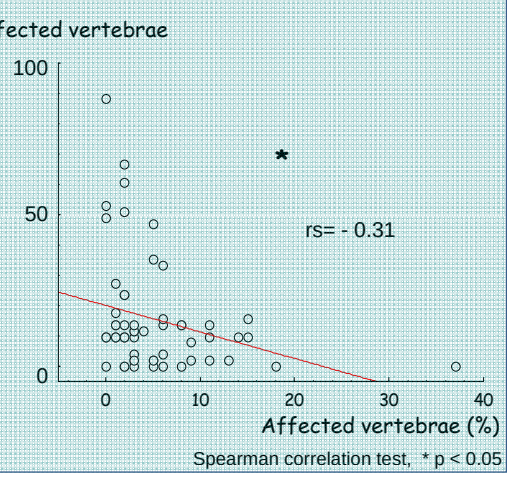
RESULTS

Vertebral evaluation at rest



Links between vertebral state and behavioural problems





DISCUSSION

These results, showing a clear relationship between vertebral problems and aggressiveness are, to our knowledge, the first evidence of a relationship between chronic discomfort / pain and "bad temper" in an animal species. Finding a negative correlation between the degree of affliction and the number of positive behaviours expressed suggests a major impact of vertebral problems - as these animals may then experience back pain (Popa *et al*. 2007, Vieira & Kumar 2004, Haussler 1996) - not only leading them to be prone to react aggressively but also lowering considerably their "positive mood".

Bearing in mind that chronic pain/discomfort and aggression are related may well alter the perception humans have of "bad-tempered" animals. This study could increase awareness of this relationship.

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Corresponding author: clemence.lesimple@univ-rennes1.fr