Does Pergolide Normalise Trh Stimulation Test In Horses With Ppid?

Karolina Drozdzewska[1]
Roswitha Merle[2] and Heidrun Gehlen[3]
[1] Equine Clinic of Free University of Berlin, Oertzenweg 19b, 14163 Berlin, Germany (current: Roseworthy Veterinary Hospital - Large Animals, The University of Adelaide)
[2] Institute of Veterinary Epidemiology and Biostatistics, Free University of Berlin, Königsweg 67, 14163 Berlin, Germany
[3] Equine Clinic of Free University of Berlin, Oertzenweg 19b, 14163 Berlin, Germany

DOES PERGOLIDE NORMALISE TRH STIMULATION TEST IN HORSES WITH PPID?

Evidence suggests that pergolide decreases adrenocorticotropin concentrations before (ACTH0) and 10 minutes after (ACTH10) thyrotropin-releasing hormone (TRH) stimulation in horses with Pituitary Pars Intermedia Dysfunction (PPID)[1,2,3]. However, little is known whether ACTH10 should normalise along with positive clinical response[2,3].

Clinical improvement following treatment with pergolide has been evaluated in horses with PPID in this study. ACTH0 and ACTH10 were compared (Mann-Whitney U-test) between horses that improved and those that did not according to the owner and veterinarian independently (Cohen's kappa assessed the agreement). The significance level was set at $p < 0.05$.

No significant differences in ACTH0 and ACTH10 were found between horses that improved and those that did not, regardless of the assessor. Cohen's kappa between the two assessments was $\kappa = 0.5$.

Clinical response to therapy	Improvement	No improvement
Horse owner		
Number	11	11
ACTH0	28.1 (19.4 – 33.8)	27.1 (18.1 – 34.1)
ACTH10	557.0 (185.0 – 694.0)	486.0 (114.0 – 817.0)
Veterinarian		
Number	17	5

ACTH0	28.0 (16.9 – 32.1)	31.5 (25.8 – 35.8)
ACTH10	486.0 (95.8 – 661.5)	817.0 (287.0 – 976.5)

ACTH concentration is given as median and interquartile range in pg mL^{-1}.

There was moderate agreement between owner and veterinarian, but in a few cases expectations of therapy differed. Irrespective of the assessor, the reduction in ACTH0 and ACTH10 following treatment with pergolide did not correspond to the clinical improvement in this study. Therefore, the TRH stimulation test should be used with caution to assess treatment response and adjust the pergolide dose.

References

1. Drozdzewska K, Winter J, Barton AK et al. Influence of feeding and other factors on adrenocorticotropin concentration and thyrotropin releasing hormone stimulation test in horses and ponies. *Equine Vet J* 2024;56:342–351.
2. Durham AE. The effect of pergolide mesylate on adrenocorticotropic hormone responses to exogenous thyrotropin releasing hormone in horses. *Vet J* 2022;285: 105831.
3. Tatum RC, McGowan CM, Ireland JL. Efficacy of pergolide for the management of equine pituitary pars intermedia dysfunction: A systematic review. Vet J 2020;266:105562.