

Can relaxing massage and music decrease stress level in race horses?

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Introduction

- 2.5-years-old Purebred Arabian horses started race training

Problem:

- Stressful stimuli: transport, unknown environment
- Restricted freedom of movement and social behavior
- Intensive physical training

Stress !!!



Introduction

- All the mentioned factors can not be eliminated ...
- What can we do?
- Maybe some relaxation methods:
 - MASSAGE ?
 - MUSIC ?



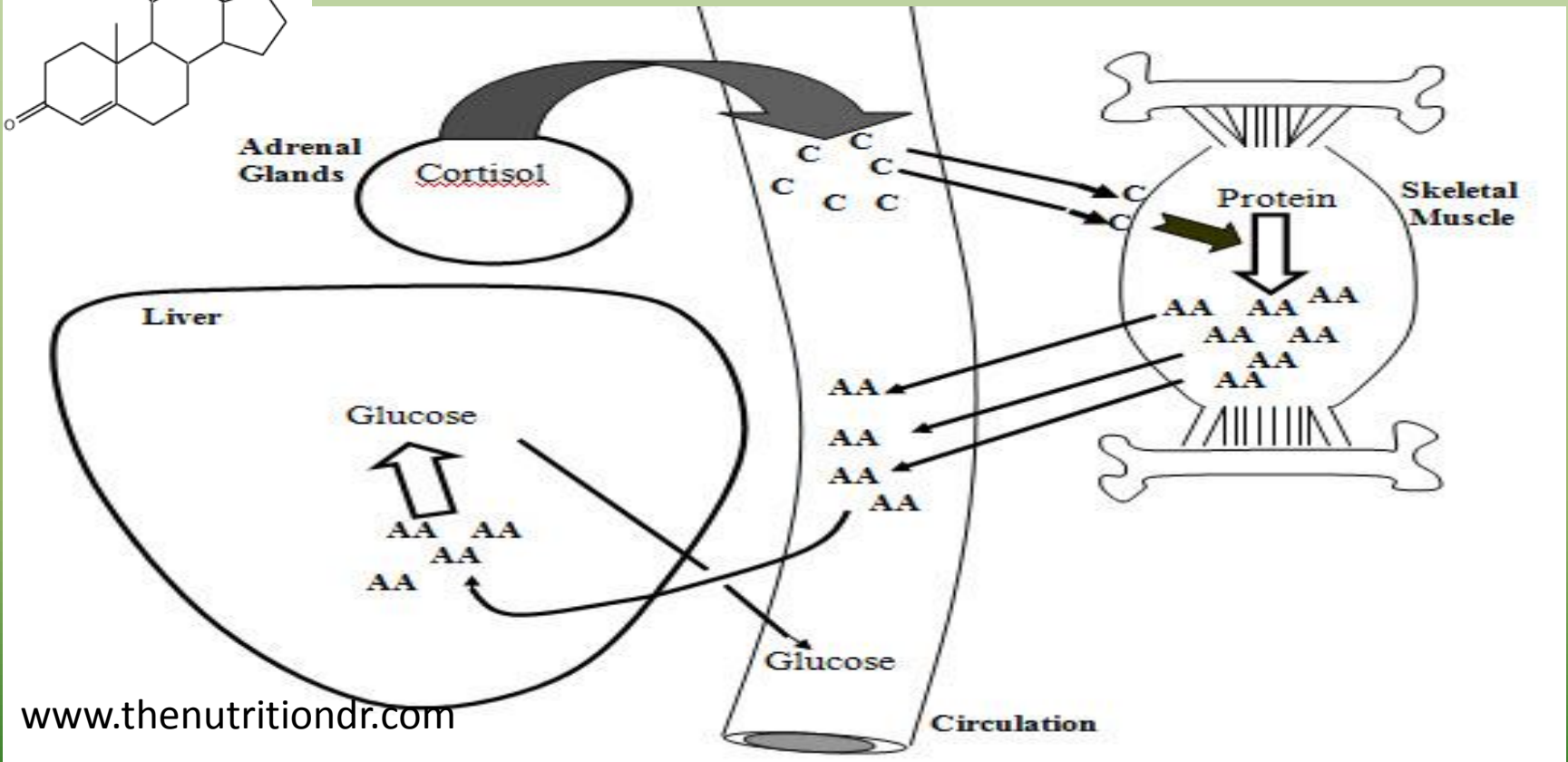
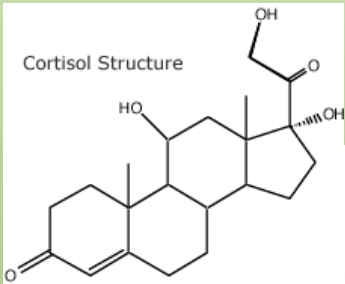
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Introduction

The evaluation of stress level ...

– measuring cortisol release



Introduction

- The objective of the study was to assess the effect of relaxing massage and music featured in the stable on the long-lasting stress level in race horses.



Material and Methods

120 Purebred Arabian horses 28-31 months old:

- Control group (n=24)
- Music Group (n = 48)
- Massage Group (n=48)



Material and Methods



Music:

- Horses listened to music pipeted into their stables
- Music was played a few hours every afternoon
- It was specifically composed and recorded by J. Marlow
- It was heard in through a loudspeaker (My Pet Speaker[®], Pet Acoustic Inc, Washington, USA)
- 200Hz ~ 12KHz ; 65 - 70 decibels



Material and Methods

Massage routine:

- The horses received a massage for about 30 min, three days a week, always after the training session.
- It was typical relaxation massage, so it included: laying on of hands, friction across the horse's muscles, tendons and ligaments, petrissage, shaking and tapotement.
- Four body areas were treated by the massage: (1) neck area, (2) scapulas, forearms and back, (3) buttocks, (4) hind limbs.

Material and Methods

Cortisol measurement:

- The study lasted for six months.
- Once a month, the saliva samples were collected from each horse to determine the cortisol concentration.
- Two saliva samples were collected from each horse:
 - (1) in the early morning at rest - before the training session;
 - (2) immediately after the return of the horse from the track.



Material and Methods



Cortisol measurement:

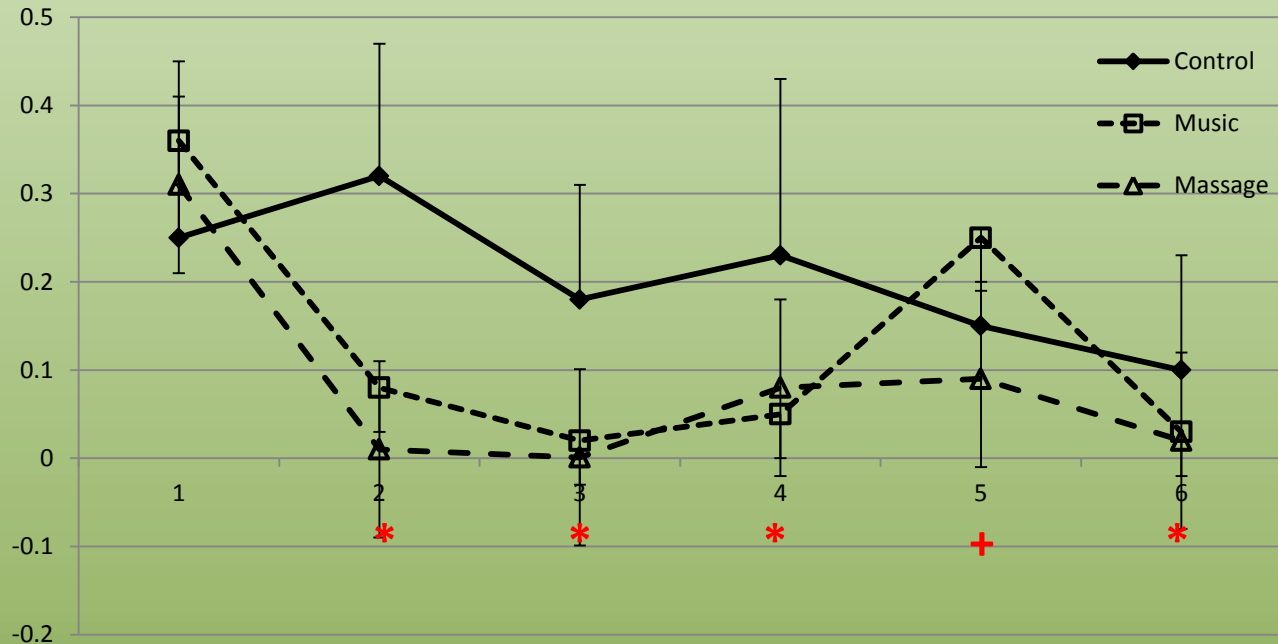
- The samples were collected with a small piece of sponge.
- In laboratory, the concentrations of cortisol in the saliva samples were measured by the enzyme-immunoassay method using the CORTISOL EIA kit DSL (Diagnostic System Laboratories Inc., Webster, TX, USA).

Statistic

- The obtained data were analysed with the use of multivariate analysis of variance (ANOVA GLM; SAS) considering the effect of the group (Control, Music and Massage Groups) and sex (stallions, mares).
- Tukey's multiple comparison test was used to identify the differences between the groups.
- Statistical significance was accepted at the level of $P < 0.05$.

Results

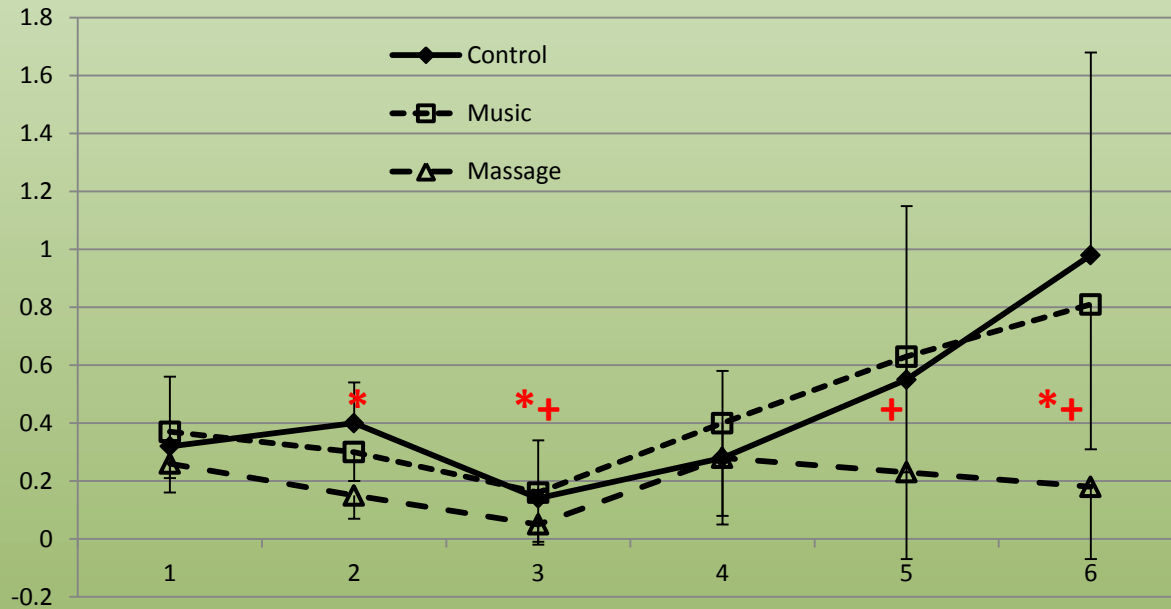
Fig. 1. Salivary cortisol level determined at rest in studied groups of horses during following months of the training season (means \pm SD)



1, 2, 3 ... - following months of the study; * - means in Control Group differ significantly in comparison to other Groups; + - mean in Massage Group is significantly different than in Music Group.

Results

Fig. 2. Salivary cortisol level determined after the end of training sessions in studied groups of horses (means \pm SD)



1, 2, 3 ... - following months of the study; * - means in Massage Group are significantly different than in Control Group; + - means in Massage Group differ significantly, in comparison to Music Group.

Conclusions

- Both relaxing methods resulted in significant decrease in cortisol release, as compared to Control Group.
- The massage treatment gave better results than listening to music which meant to be relaxing.
- Playing music, though, is cheaper and easier to provide, so the music is recommended for improving the welfare of racehorses.



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Thank you for attention !

