The effect of chiropractic treatment for horse riders on the saddle pressure distribution beneath the saddle

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BACKGROUND: The horse-saddle-rider interaction is recognised as an important factor in performance impairment [1]. An integrative approach increasingly involves complementary therapies. Weight bearing asymmetries in horse riders have been identified[2] but not investigated for effects of correcting this imbalance.

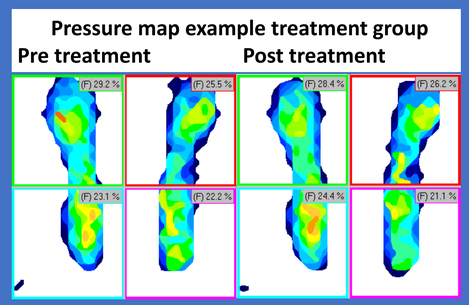
AIM: To provide quantitative data to determine if chiropractic treatment can affect the weight distribution of the rider beneath the saddle.

METHODOLOGY

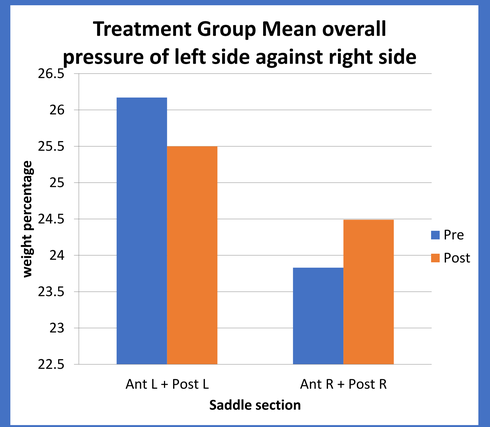
- Forty experienced horse-riders, with no major back issues, were randomly allocated into two groups.
- Rider leg length and pelvic rotation, tilt, torsion were assessed. Rider's seated pressure distribution was measured using a static saddle horse with Tekscan Conformat pressure sensing system under a single close contact saddle at their 'normal' stirrup length.
- Treatment group (n=20) received chiropractic treatment by a single McTimoney chiropractor; control group (n=20) received palpation only.
- Mean overall pressure(MOP) was measured over a period of 10 seconds for front-back-left-right quadrants, before palpation and after treatment/no intervention.
- Symmetry indices (SI) calculated from raw data. Kolmogorov-Smirnov test for normality, paired T test assessed group differences.

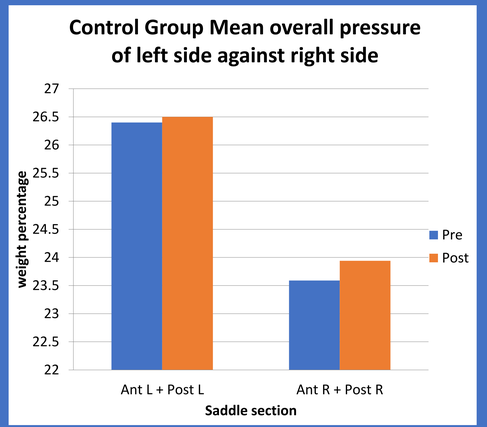
RESULTS

- 80% of riders had a longer left leg with 90% association with inferior pelvic left tilt. MOP was highest on the anterior left quadrant.



- For all riders, there was a significant difference between anterior and posterior pressure symmetry (mean SI±SD: anterior 10.4±6.4; posterior 19.3±12.4; p<0.0001).
- TREATMENT GROUP: There was a significant reduction in anterior MOP asymmetry
- mean SI±SD: before treatment 11.2±6.1, post treatment 5.4±3.8, p=0.003)
- There was no such significant change in asymmetry for the control group or posterior quadrants..





REFERENCES

[1] [Greve L., Dyson S. (2012) The horse-saddle-rider interaction. The Veterinary Journal. Elsevier.

[2] Gunst S., Dittmann M. T., Arpagaus S., Roepstorff C., Latif S. N., Klaassen B., Pauli C. A., Bauer C. M., Weishaupt M. A., (2019) Influence of functional rider and horse asymmetries on saddle force distribution during stance and sitting trot. Journal of Equine veterinary science 78.

LIMITATIONS

- Immediate effect only
- Effects over time and in relation to repeat treatments would be of interest.

CONCLUSIONS

- Positive evidence that chiropractic treatment improves the weight distribution symmetry of the rider under the saddle immediately following treatment.
- Further research is required to understand the longer term effect of chiropractic treatment and repeated treatments on rider weight distribution on the saddle and its effect on the horse.