

IMPORTANCE OF THE EVALUATION OF ANEMIA IN THE ASSESSMENT AND TREATMENT OF A MILD TRAUMATIC BRAIN INJURY IN AN ELITE FEMALE ATHLETE-A CASE STUDY

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Background

A 28-year-old female presented to the clinic with 9 months of persistent symptoms following a concussive injury. The initial clinical impression was of post-concussive syndrome presenting as a frontal headache concomitant with convergence insufficiency, photophobia and phonophobia with an associated social withdrawal and difficulty reading. These symptoms are associated with mTBI but can also be linked to and / or complicated by normocytic normochromic anemia.

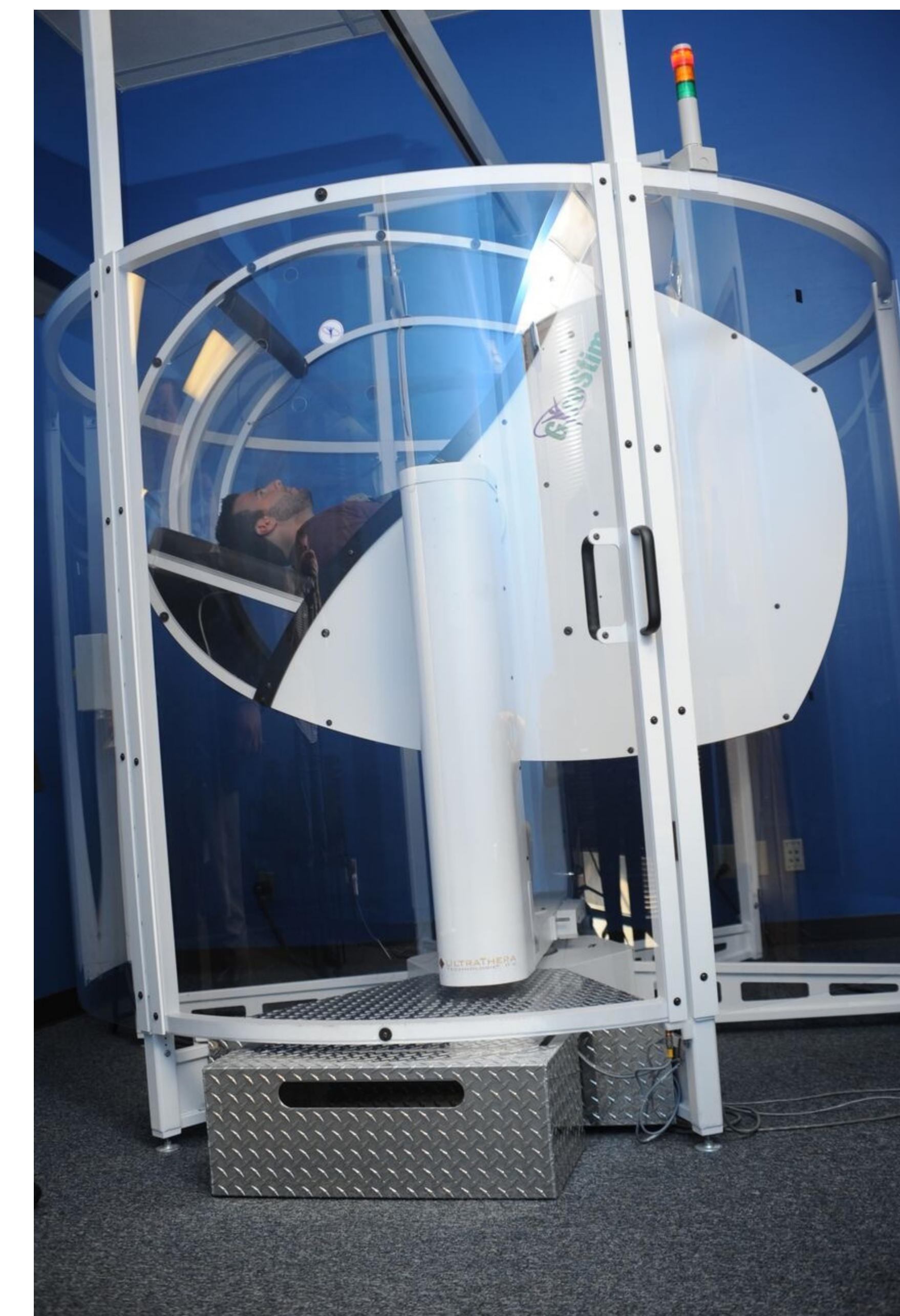
Methods

Functional neurologic examination of the patient revealed ocular dysmetria, convergence insufficiency, cervical instability. Blood panels revealed functional anemia as demonstrated by a low red blood cell count, low hematocrit, low iron saturation, and low ferritin levels. Neurotherapeutic interventions utilized included specific chiropractic adjustments, ocular re-education, static postural corrections, off-axis rotational device, and interactive metronome. Nutritional intervention to address the functional anemia was also implemented.

Results

Following a two week intensively applied course of care, there were improvements in all of her symptoms. Photophobia and phonophobia were no longer present, headache frequency and intensity had improved, and she was able to resume writing and using a computer.

TABLE 1	Functional Range	6/14	11/14
RBC	3.9-4.5	3.74	3.68
Hemoglobin	13.5-15.5 g/dL	11.9	11.9
Free Iron	85-130 ug/dL	36	106
Serum Ferritin	10-122ng/dL	21	27



Conclusions

This case report suggests that female athletes with post-concussion syndrome / mTBI injuries should be carefully evaluated for anemic complications when responding slow or recalcitrant to standard treatment protocols and / or procedures. This study further demonstrates the effectiveness of functional chiropractic neurology, OVARD, and nutritional considerations in patients with post-concussion syndrome / mTBI.