

Exploring Early Neuropsychological And Behavioral Alterations In Young Former Rugby Players: A Study Protocol

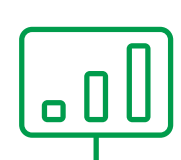
Camila Roldan Olivera, **Waleska Berrios**, Maria Cecilia Fernandez.
Neurology, Hospital Italiano de Buenos Aires, Buenos Aires, Argentina

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Introduction

Chronic traumatic encephalopathy (CTE) is a neurodegenerative disease associated with repetitive traumatic brain injuries (TBI), with increasing evidence in contact-sport athletes. In rugby, prolonged early exposure has been linked to cognitive and behavioral alterations and increased CTE risk. However, most studies have focused on older or long-retired professional athletes, leaving it unclear whether early cognitive or behavioral signs can be detected in younger individuals. This study aims to compare the neuropsychological and behavioral profiles of young former rugby players with a non-contact sport control group to explore subtle differences that may reflect early indicators of decline.

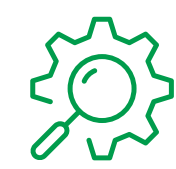


Results

We expect to identify subtle cognitive and behavioral differences between groups, particularly in attention, executive functions, and emotional regulation. While these differences may not reach clinical thresholds, they could serve as early indicators of potential long-term impact.

Contact

waleska.berrios@hiba.org.ar



Methods

We will conduct a cross-sectional study including young former rugby players and a matched control group, aged 20-30, residing in Buenos Aires, Argentina. The exposed group will include individuals who began playing rugby before age 12 and retired at least two years prior to enrollment. All participants will provide informed consent and will be screened for exclusion criteria, including a history of moderate-to-severe TBI at any point, or mild TBI in the past two years, major psychiatric or neurological disorders, neurodevelopmental conditions, and recent substance or alcohol abuse. Participants will complete a comprehensive neurocognitive battery (Figure 1).



Conclusions

Current evidence highlights the relevance of early detection of cognitive and behavioral changes in athletes exposed to repetitive head trauma. This study may contribute to identifying early neuropsychological and behavioral alterations, thereby supporting the development of monitoring and prevention strategies in contact sport populations.



References

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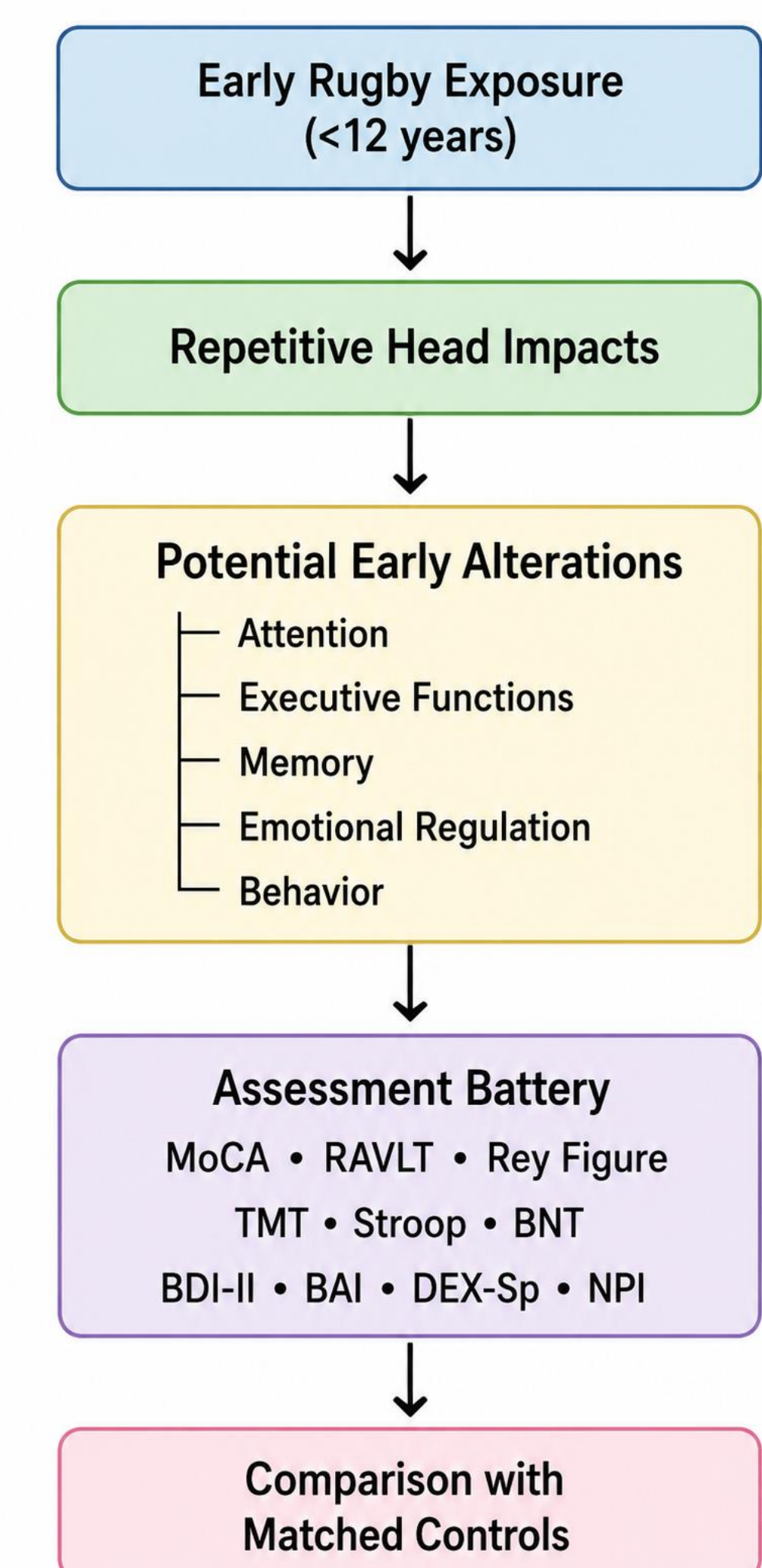


Figure 1: Battery: RAVLT, Rey Complex Figure, Digit Span, Digit Symbol, Trail Making Test A/B, Stroop, Boston Naming Test, verbal fluency, Clock Drawing, Cube Copy, Beck Depression and Anxiety Inventories (BDI-II, BAI), Dysexecutive Questionnaire (DEX-Sp), Neuropsychiatric Inventory (NPI).