

Posterior Circulation Ischemic Strokes in Olympic and Division 1 Wrestlers

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Abstract : Objective: The aim of this study is to review a case series of 4 high-level Olympic and Division 1 wrestlers who experienced debilitating posterior circulation ischemic strokes during or after a competitive wrestling event and to identify risk factors, etiology and outcomes of stroke in young, healthy elite wrestlers. Background: Stroke occurs in one in 10,000 people under age 64. In young adults, the most common causes of stroke are cardiac embolism, hypercoagulable state, and vasculopathy. One-third of these strokes occur in young, fit individuals. There is little published literature about ischemic strokes that occur in wrestlers. Based on the nature of wrestling, the risk of injury or dissection to neurovascular structures may be a possible theory, but very few case reports exist. Methodology: 4 wrestlers under the age of 44 with a known history of ischemic stroke participated in individual interviews either in person or virtually. Each of the wrestlers provided their demographic information, wrestling background, clinical presentation at the time of stroke, imaging results, identification of potential risk factors, acute treatment and recovery. Results: 3 white male Division 1 wrestlers (2 Lehigh University, 1 Lock Haven University) and 1 black male 2008 Olympian experienced posterior circulation strokes. Case #1 felt a "pop" while wrestling (lateral medullary infarct, possible vertebral artery dissection); Case #2 awoke with severe vertigo, sweating, and vomiting after wrestling the previous day (left cerebellar infarct, (+) protein S deficiency); Case #3 severe vertigo, ataxia, and sensation of impending doom after wrestling earlier that week (left cerebellar infarct, hypoplastic left vertebral artery (+) anti-cardiolipin antibodies). Case #4 severe dizziness, confusion (left cerebellar stroke, vertebral artery dissection, small PFO). Conclusion: 3 wrestlers were started on anti-platelet therapy, risk factors were modified, and returned to their sport. 1 wrestler was placed on anti-coagulation and retired from competition.

Keywords : stroke, wrestling, Olympic, posterior circulation

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