Duplicate Hypertrophic Reversed Palmaris Brevis Muscle: A Case Report
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Background: A 16-year-old female rugby athlete complained of sudden onset of right wrist pain while flipping a large military style tire weighing approximately four hundred pounds. Upon assessment she did not report feeling or hearing a pop. There was nothing remarkable other than swelling and tenderness over the anterior aspect of the wrist and distal forearm. The patient was diagnosed with a contusion and treated symptomatically for pain and inflammation. The patient noted improvement over the next couple weeks as she rested the hand, however any time she tried to return to activity the volar aspect of her wrist swelled and became very painful. The pain prevented her from participating in rugby and other recreational activities. Because she is right hand dominant, activities of daily living also began to cause her discomfort. Upon reassessment, there were no changes regarding symptoms and no changes with regards to the appearance of the hand. Because the injury did not respond as a typical contusion would, the patient was referred to a physician for further assessment.

Differential Diagnosis: Ganglion cyst, flexor carpi ulnaris rupture, aberrant palmaris longus, palmaris brevis sign, rheumatoid arthritis, tenosynovitis, carpal fracture and tumor. Treatment: Upon physician assessment, the patient had full elbow and wrist range of motion and she was able to make a composite fist. She reported some diminished sensation over the ulnar digits and had a small non-pulsatile mass on the volar aspect of the wrist. The physician’s initial diagnosis was a ganglion cyst or a flexor carpi ulnaris rupture. Magnetic resonance imaging (MRI) revealed an unknown mass in the wrist. Due to concern for a tumor, the patient and her family chose to have surgical exploration after consultation with the physician. During surgery, the surgeon discovered an anomalous muscle mass that was hypertrophic and extended eight centimeters proximally along the forearm. The mass was then excised. The physician determined that the excised muscle was an aberrant revered palmaris brevis muscle due to its origin along the transverse carpal ligament. Uniqueness: While an anomalous palmaris longus muscle is commonly described and other aberrant muscles identified, an aberrant palmaris brevis is unique. Even more unique is its large size and the fact that it continued proximally along the forearm instead of distally into the hand. Although an anomalous muscle is uncommonly associated with ulnar nerve compression at the wrist, it is likely that the decreased sensation reported by the patient was due to ulnar nerve compression by this muscle. Conclusions: It is important to understand the anatomy of the hand and the occurrence of a duplicate muscle. An unknown mass can be attributed to an anatomical abnormality rather than an acute injury or benign growth. Nerve compression by an anomalous muscle can lead to further complications. Since removal of the muscle, the patient has returned to full activity without complication. Relevant Evidence: To our knowledge this is the first case of an aberrant revered palmaris brevis muscle. Word Count: 488.