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Extraocular Muscle Fibrosis in Idiopathic Orbital Inflammation

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A 41-year-old man with severe long-standing bilateral myositic-type idiopathic orbital inflammation presented with constant left exodeviation and hypotropia (Figure 1A). Forced duction tests were positive in all directions in both eyes. Computerized tomography of the orbits showed that the extraocular muscles in the left eye were not enlarged (Figure 1B). Laboratory test results showed normal thyroid hormone levels and were negative for auto-antibodies associated with thyroid orbitopathy. Intraoperatively, the left medial rectus muscle appeared to have a distinct border between the distal normally vascularized portion of the muscle and the proximal white, completely avascular portion of the muscle (Figure 1C, white arrow). A biopsy of the avascular area showed replacement of the normal muscle tissue by dense fibrous tissue (Figure 1D, black arrow). This case demonstrates the severe degree of extraocular muscle fibrosis possible in idiopathic orbital inflammation.

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Figure 1.