MYO-MRI diagnostic protocols in genetic myopathies.


Abstract

Whole-body magnetic resonance imaging has emerged as a useful imaging tool in diagnosing and characterizing the progression of myopathies and muscular dystrophies. Whole-body MRI indications and diagnostic efficacy are becoming better defined with the increasing number of cases, publications and discussions within multidisciplinary working groups. Advanced Whole-body MRI protocols are rapid, lower cost, and well-tolerated by patients. Accurate interpretation of muscle Whole-body MRI requires a detailed knowledge of muscle anatomy and differential pattern of involvement in muscle diseases. With the surge in recently identified novel genetic myopathies, Whole-body MRI will become increasingly useful for phenotypic validation of genetic variants of unknown significance. In addition, Whole-body MRI will be progressively used as a biomarker for disease progression and quantify response to therapy with the emergence of novel disease modifying treatments. This review outlines Whole-body MRI indications and updates refined protocols and provides a comprehensive overview of the diagnostic utility and suggested methodology of Whole-body MRI for pediatric and adult patients with muscle diseases.

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KEYWORDS: Congenital myopathy; Inflammatory myopathy; Inherited myopathy; Limb girdle muscular dystrophy; Magnetic resonance imaging; Whole-body MRI

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