The neuromuscular differential diagnosis of joint hypermobility.

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Erratum in

Abstract
Joint hypermobility is the defining feature of various inherited connective tissue disorders such as Marfan syndrome and various types of Ehlers-Danlos syndrome and these will generally be the first conditions to be considered by geneticists and pediatricians in the differential diagnosis of a patient presenting with such findings. However, several congenital and adult-onset inherited myopathies also present with joint hypermobility in the context of often only mild-to-moderate muscle weakness and should, therefore, be included in the differential diagnosis of joint hypermobility. In fact, on the molecular level disorders within both groups represent different ends of the same spectrum of inherited extracellular matrix (ECM) disorders. In this review we will summarize the measures of joint hypermobility, illustrate molecular mechanisms these groups of disorders have in common, and subsequently discuss the clinical features of: 1) the most common connective tissue disorders with myopathic or other neuromuscular features: Ehlers-Danlos syndrome, Marfan syndrome and Loeys-Dietz syndrome; 2) myopathy and connective tissue overlap disorders (muscle extracellular matrix (ECM) disorders), including collagen VI related dystrophies and FKBP14 related kyphoscoliotic type of Ehlers-Danlos syndrome; and 3) various (congenital) myopathies with prominent joint hypermobility including RYR1- and SEPN1-related myopathy. The aim of this review is to assist clinical geneticists and other clinicians with recognition of these disorders.

KEYWORDS: extracellular matrix; hypermobility; inherited connective tissue disorders; myopathies
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