

**FUNCTIONAL MAGNETIC RESONANCE EVIDENCE OF CORTICAL ALTERATIONS IN A CASE OF REVERSIBLE CONGENITAL LYMPHEDEMA OF THE LOWER LIMB: A PILOT STUDY**

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*ABSTRACT*

*We report the first application of brain functional Magnetic Resonance Imaging (fMRI) to congenital peripheral lymphedema patients before and after microsurgical treatment. Our aim was to evaluate the effects of limb shape change on cortical organization of the motor system and how the cortical sensorimotor network restructures after microsurgical therapy. We acquired fMRI during active motor and motor imagery tasks before surgery and six months after surgery in a patient with congenital lymphedema of the left leg. fMRI data revealed activation differences in primary and secondary motor areas between the two scanning sessions for both tasks and also between the patient's and a healthy volunteer's activations. We suggest that these alterations could be related to changes in body schema representation due to the congenital lymphedema.*