The Duchenne brain

Doorenweerd, N.

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Curriculum Vitae

Nathalie Doorenweerd was born on July 24th 1986 in Vlissingen, The Netherlands. She obtained her bachelor's degree in Bio-Pharmaceutical science from Leiden University, Faculty of Science in 2009. She continued her studies towards a master's in Bio-Pharmaceutical Science specialized in Neuroscience and Pharmaceutical science. Led by an interest in developing new therapeutic strategies targeting the central nervous system and diseases with a cerebral component, she assessed the effect of unilateral epilepsy inducing kainic acid on Blood-Brain-Barrier efflux pump expression and functionality in the rat brain for her first graduation project, which took place at the Department of Pharmacology of Leiden University, Faculty of science under supervision of dr. S. Syvänen, dr. R.A. Voskuyl and dr. E.C. de Lange. This was her first experience with designing and setting up experiments, and included applying for medical ethical committee approval, independently performing surgery and performing all the experiments. For her second graduation project she moved to the Radiology department of Leiden University Medical Centre where she discovered the potential of state-of-the-art imaging techniques in exploring the brain non-invasively *in vivo*. Supervised by dr. L. van der Weerd and D.S. Poole, she helped optimize continuous infusion of manganese to improve image contrast and reduce manganese side-effects in manganese-enhanced magnetic resonance imaging studies in mice. This method was subsequently published in NeuroImage.

After obtaining her master's degree in 2011, she started a PhD at Leiden University Medical Center at the C.J. Gorter Center for High Field MRI and her research project 'Brain Imaging and cognition in Duchenne muscular dystrophy' culminated in this thesis. She was given the opportunity to collaborate with experts in the field of very different disciplines and share study results at national and international conferences which was acknowledged with three awards.

Since November 2015 she has been continuing her work on the brain involvement in Duchenne muscular dystrophy by performing longitudinal MRI in an international collaboration between Leiden University Medical Centre, The Netherlands and the John Walton Muscular Dystrophy Research Centre at Newcastle University, United Kingdom.

List of publications

Doorenweerd N, Straathof CS, Dumas EM, Spitali P, Ginjaar IB, Wokke BH, Schrans DG, van den Bergen JC, van Zwet EW, Webb A, van Buchem MA, Verschuuren JJ, Hendriksen JG, Niks EH, Kan HE. *Reduced cerebral gray matter and altered white matter in boys with Duchenne muscular dystrophy.* Ann Neurol. 2014 Sep;76(3):403-11.

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