

Possibilities of minimal invasive treatment of hips displacement in children with cerebral palsy

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Abstract

Introduction: Hips dislocation is one of the main complications in children with cerebral palsy behind pesquinus. Without treatment we see a development of about seven percent per year. Main cause beside delayed verticalisation is pathologic muscle drawing of hip surrounding muscles (Flynn et al 2002, Cornell et al. 1995, doll et al 2006). Mostly concerned are children with restricted possibility of walking and standing self-contained, which is graded with the gross motor function classification system.

Methods: It is common to stabilize muscle imbalance with soft tissue balancing in young age. Here we wish percutaneous myofasziotomie to lengthen short muscle. The iliopsoas muscle must be lengthen with an mini-open access. As muscle lengthening is not sufficient enough in risky hips in older patients, we use additional growth guiding as a minimal invasive method to prohibit further hip displacement. Therefore two studies could show a positive effect (Lee et al 2016, Portinaro et al 2016).

Results: In 99 hips observed for in mean 4, 2 years in children with GMFCS 3-5 under six years we found an improvement of hip displacement in 33%, a worsening in 5% and stabilization in 62% as reported in Congress Focus CP 2019. In our patients elder than six years we united percutaneous myofasziotomy with shown growth of the femoral head and we originate in 16 hips a mean development of movement index of 5% and an improvement of femoral neck angle of 9° within 16 month mean follow up as we reported in 2018 during the congress for orthopaedic child surgery in Dresden.

Discussion: Minimal invasive soft tissue release seems to be as effective as open release as performed in many countries with hip surveyance programs and recovery of children treated minimal invasively is faster. Fewer surgical dissections, less comorbidity, and faster recovery of motion than varies osteotomy make directed growth surgery a cure choice for coxa valga in spastic hip dislocation in no ambulant cerebral palsy children.

Conclusion: Further studies must show the efficiency of this method in long term.



Biography:

Peter Bernius studied Medicine at the University of Heidelberg. In his orthopaedic and pediatric orthopaedic training, he went through various stages at the Surgical Clinic in Darmstadt, at the University Hospital Oskar-Helene-Heim in Berlin and the University Hospital in Freiburg. Since 2001 Dr Bernius works as chief physician of the Center for Pediatric and Neuro-Orthopedics of the Schön Klinik Munich Harlaching. He is an internationally recognized specialist in minimally invasive surgical procedures, early functional rehabilitation, functional orthotics, and specialized learning programs to support neuroplastic regeneration.

Speaker Publications:

- 1 "Treatment failures and complications in patients with Blount disease treated with temporary hemiepiphysiodesis: A critical systematic literature review"; Journal of Pediatric Orthopaedics /2018/ B 27(6):1, DOI: 10.1097/BPB.0000000000000523.
2. "GOAL: Gait Outcome Assessment List"; Neuropediatrics/2017/ 48(S 01):S1-S45, DOI: 10.1055/s-0037-1602984.
3. "Feasibility Study Using In-Water EEG Measurement during Dolphin Assisted Therapy"; International Journal of Psychiatry in Clinical Practice/2016/ 4(1):17-25.

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