

Funkcionalni izid po dorzalni rizotomiji in fizioterapiji pri deklici s cerebralno paralizo – študija primera

Irena Jemec Štukl, dipl. fiziot., fizioterapevt s specialnimi znanji

Univerzitetni rehabilitacijski inštitut Republike Slovenije - Soča, Ljubljana

Korespondenca/Correspondence: Irena Jemec Štukl, dipl. fiziot.; e-pošta: irena.jemec@gmail.com, irena.jemec@ir-rs.si

Uvod: Eden izmed možnih terapevtskih pristopov za zmanjšanje spastičnosti pri otrocih s cerebralno paralizo je selektivna dorzalna rizotomija, pri kateri se z delno prekinitvijo dorzalnih živčnih korenin od prve ledvene do druge križnične korenine zmanjša senzorni priliv s teh delov in s tem spastičnost (1). Namen: Želeli smo oceniti funkcijski izid gibanja pri deklici po selektivni dorzalni rizotomiji in intenzivnem programu fizioterapije. **Metode:** Deklica s spastično diparetično obliko cerebralne paralize, z večjo okvaro na levi strani, ki je bila rojena z gestacijsko starostjo 33 tednov, porodno težo 2270 g in oceno po Apgarjevi 8/8/8. Gibalni razvoj je potekal upočasnjeno, vključena je bila v program fizioterapije. Po lestvici GMFCS je bila razvrščena v II. stopnjo. Pri starosti dveh let in sedem mesecev je bila operirana v ZDA, kjer so naredili rizotomijo. Za spremljanje funkcijskega izida je isti tim strokovnih sodelavcev opravil oceno grobih gibalnih veščin s testom GMFM-88 (2) pred operacijo, nato pa še en mesec, štiri mesece, osem in osemnajst mesecev po operaciji. Deklica je bila eno leto in pol vključena v program individualne vadbe od 4- do 5-krat na mesec v prvih šestih mesecih, naslednje tri mesece od 3- do 4-krat na teden, nato devet mesecev od 2 do 3-krat na teden. Fizioterapija je bila usmerjena v učenje in izboljšanje funkcionalnih veščin gibanja (izboljšanje selektivnosti gibanja, dinamične stabilnosti, ravnotežja), vaje za raztezanje mehkih tkiv in krepitev mišic. Vključena je bila tudi v vadbo hoje na tekočem traku, ki so jo izvajali večinoma doma. Pri hoji je uporabljala nizke opornice za gleženj in stopalo. Ponoči je imela nameščene opornice za kolena. **Rezultati:** Ocena z GMFM-88 je pred rizotomijo znašala 70,8 %. Takoj po operaciji se je ocena poslabšala (70,0 %), nato pa izboljševala, najbolj v prvih štirih mesecih. Po štirih mesecih se je ocena zvišala za 9,8 %, po osmih mesecih za 12,4 %, po letu in pol pa za 18,7 % glede na izhodiščno vrednost. Analiza rezultatov posameznih podlestvic je pokazala največje izboljšanje veščin pri hoji, pri kateri se je rezultat štiri mesece po rizotomiji izboljšal za 25,0 %, ter veščin pri stoji, pri kateri se je rezultat v istem obdobju izboljšal za 20,5 % glede na izhodiščno vrednost. **Zaključek:** Deklica je napredovala v gibanju skozi vse ocenjevalno obdobje enega leta in pol. Grobe motorične veščine so se po selektivni dorzalni rizotomiji prehodno nekoliko poslabšale, nato pa po intenzivnem programu fizioterapije izboljšale, še najbolj v prvih štirih mesecih po operaciji. Podobno izboljšanje grobih gibalnih funkcij po rizotomiji in programu fizioterapije sta pokazali tudi analiza treh randomiziranih kontroliranih študij (3) ter študija s kontrolno skupino (1). Pridobivanje funkcijskih veščin pri deklici je bilo postopno, kar kaže na pomen dolgotrajne vadbe in učenja gibalnih veščin. Glede na rezultate lahko predvidevamo, da se bodo dekličine grobe gibalne funkcije še izboljševale, vendar trenutno ne moremo predvideti, do kdaj.

Ključne besede: cerebralna paraliza, rizotomija, funkcionalna sprememba, izid intervencije, spastičnost.

Functional outcome following dorsal rhizotomy and physiotherapy in a girl with cerebral palsy – single case study

Introduction: Selective dorsal rhizotomy is one of the possible therapeutic approaches for treating spasticity in children with cerebral palsy (CP), where sensory inflows on level L1-S2 of nerve roots are partially interrupted and spasticity is reduced (1). Purpose: We wanted to assess the functional outcome in movement for a girl with CP following a selective dorsal rhizotomy and intensive physiotherapy.

Methods: A girl with diparetic spastic CP, with greater disability on her left side. The girl was born in 33rd week of gestation, her birth weight was 2270 g and Apgar score was 8/8/8. Her movement development was delayed so she attended a physiotherapy program. According to the GMFCS classification, she is categorised into level II. At the age of 2 years and 7 months, she was operated in the USA, where rhizotomy was performed. In order to assess the functional outcome one team of colleagues performed assessment of gross motor function measure (GMFM-88) (2) before the surgery and one, four, eight and 18 months after the surgery. The girl attended an individual training program for a year and half, 4-5 sessions per week in the first six months after surgery, 3-4 sessions per week for the next three months and 2-3 sessions per week in the last nine months. Physiotherapy focused on learning and improving functional skills (improvement of movement selectivity, dynamic stability and balance), on stretching exercises for soft tissue and muscle strengthening. In addition, she was walking on treadmill, mostly at home. When walking she used low ankle and foot orthoses. At night she wore knee orthoses.

Results: The value of GMFM before the surgery was 70.8%, after surgery this value deteriorated (70.0%), afterwards improved, fastest in the first four months. Four months after surgery the value increased by 9.8%, eight months after by 12.4% and after 18 months by 18.7% in comparison to the baseline. The analysis of results for each subgroup showed greatest improvement in walking skills, where the result improved by 25.0%, and in standing skills, where the result improved by 20.5% compared to the baseline, four months after rhizotomy. **Conclusion:** The girl's movement abilities improved throughout the whole assessment period of 18 months. Gross motor functions slightly deteriorated in transition after selective dorsal rhizotomy, but after the physiotherapy program, they improved, the most in the first four months after the surgery. The analysis of three randomised controlled trials (3) and the controlled research (1) showed similar improvement of gross motor skills after rhizotomy and physiotherapy. Improvement in functional skills in the girl's case occurred gradually, which shows the importance of long-term therapy and learning functional skills. According to the results, we can assume that the girl's gross motor functions will continue to improve, however we cannot foresee for how long.

Key words: cerebral palsy, rhizotomy, functional change, intervention outcome, spasticity.

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