Complications Associated with Minimally Invasive Surgery for Children with Cerebral Palsy

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Abstract

Background: The purpose of this study was to examine the complications associated with the minimally invasive multilevel surgical technique known as selective percutaneous myofascial lengthening (SPM L) in children with cerebral palsy. This technique lengthens musculotendinous units in the calf, hamstring, and hip adductor regions and includes obturator nerve block with ethanol when indicated.

Methods: A retrospective review of all hard copy charts and electronic medical records of all patients age 2-18 years with cerebral palsy who had SPML surgery between 2006 and 2009 was performed. All patients were one year or more postoperative at the time of review. The number and type of complications was recorded. A total of 184 children underwent 1102 individual SPML surgeries. The most common combination was surgery at bilateral hip adductors with nerve blocks, hamstrings and calves which was counted as 8 surgeries. There were 101 boys and 83 girls, 471 procedures were performed in the hip adductor region; 305 at the hamstrings; 226 at the gastrocsoleus muscles. 100 procedures were performed in other regions including the biceps, palmaris longus, peroneal and Achilles tendons. The mean age at the time of surgery was 8.9 years.

Results: There were 27 reported complications (2.4%): one fever, two hematomas, 8 paresthesias, 4 tight casts, 11 flexion contractures and one ruptured muscle. None of these complications required hospital admission for treatment or resulted in chronic pain.

Conclusion: The complication rate with SPML surgery is low. Minimally invasive surgery can be performed with minimal risk in children with cerebral palsy.

200 character summary:

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