Intramuscular injection

An intramuscular injection is a technique used to deliver a medication deep into the muscles. This allows the medication to be absorbed into the bloodstream quickly.

Case series

2017

Retrospective study of epidemiology, operative findings, and surgical outcomes over the period of 2000-2016 in 102 children with peripheral nerve injury.

Intramuscular injections were the most common cause (52.9%), followed by entrapment (15.6%). The most common nerve involved was the sciatic nerve (54.9%), followed by the common peroneal nerve (13.7%), the ulnar nerve (10.8%), and the radial nerve (10.8%). Perineural adhesion was the most common intraoperative finding (74.5%), followed by a neuroma in continuity (14.7%) and gap (10.8%). Most of the children with peripheral adhesion underwent external and internal neurolysis (75.5%). Follow-up was available for 67 children. The median follow-up period was 7 months (range 3-36). The outcome was assessed according to MRC grading. Favorable functional improvement was noted in 76.1% of the children. Age less than 10 years ($p = 0.06$), injury before 6 months ($p = 0.03$), and MRC motor grade (<3) ($p = 0.01$) were positive predictive factors related to the final outcome.

This study can serve as a guide to determine the epidemiology, duration of intervention, and surgical outcome of traumatic peripheral nerve injuries in the pediatric population [1].

2011

Topuz et al. retrospectively researched 119 patients with buttock level traumatic injury to sciatic nerves and 42 cases of sciatic nerve injuries due to intramuscular injections were observed among them. The aim was finding out the post-operative outcomes of early intervention and describing a timing schedule for surgical intervention.

Between 1984 and 2004 a total of 73 patients were operated on to explore the nerve lesion. These injuries consisted of post-injection injury, hip fracture/dislocation, contusion, compression, gunshot wound, hip arthroplasty and laceration.

The study took into account 29 cases operated because of injection injury. The most common presenting symptom was pain, which often masked underlying loss of function. Findings at operation were analysed according to the type of sciatic nerve damaged following intramuscular injection, the nature of this injury and the referring speciality. Some of the more common causal operations and procedures are discussed. Preventive measures are listed, and early diagnosis and treatment are recommended. The aim of the operation was to establish the diagnosis, to resolve pain and to improve function by epineural or interfascicular neurolysis.

They analysed the findings at operation according to the nature of the injury and the procedures which the patients underwent. Seven patients (24.1%) had an excellent outcome, 14 patients (48.2%) had good outcome and 4 patients (13.8%) had fair outcome. The other four patients (13.8%) had poor

outcome. No patients suffered from additional post-operative neurological deficits or from worsening of pre-operative deficits.

They recommend measures by which the morbidity rate of these injuries may be reduced. We stress, however, that if the clinical evidence points to transection of a nerve, that nerve may be explored without waiting for electrophysiological confirmation. Delay in recognition and therefore treatment was a cause of litigation, and contributed to the poor outcome in many cases [2].

1)
Devi BI, Konar SK, Bhat DI, Shukla DP, Bharath R, Gopalakrishnan MS. Predictors of Surgical Outcomes of Traumatic Peripheral Nerve Injuries in Children: An Institutional Experience. Pediatr Neurosurg. 2017 Nov 23. doi: 10.1159/000484174. [Epub ahead of print] PubMed PMID: 29166638.
2)
Topuz K, Kutlay M, Simşek H, Atabey C, Demircan M, Senol Güney M. Early surgical treatment protocol for sciatic nerve injury due to injection–a retrospective study. Br J Neurosurg. 2011 Aug;25(4):509-15. doi: 10.3109/02688697.2011.566380. Epub 2011 Apr 22. Review. PubMed PMID: 21513449.