

Methodology.– Review of scientific societies recommendations on the implementation of loco-regional anesthetic blocks for optimal security of these gestures in the PMR care units.

Results.– The gesture in PRM is primarily concerned with the effects of selective motor blocks to analyze the function (walking, grip), sensory nerve blocks provide to analyze muscle-tendon length in order to surgery or finally for anesthesia to produce botulinum toxin in good conditions. The choice of the pharmacologic agents is related to the duration and onset of action, its power and its toxicity. In PRM, the ropivacaine (long time and action) and lidocaine (short time and action) are the most used. The risk of toxicity is related to systemic leakage of the drug (cardiac and neurological toxicity proportional to the concentration of pharmacologic anesthetic medication), or immuno-allergic phenomena, which are very rare (anaphylaxis). Other complications are related to material tracking nerve fibers (neuro-stimulators, short bevel needle) and the technique performed poorly can cause sores and residual neuropathic pain.

Discussion.– The indications for anesthetic block in PMR are essentially peripheral nerve (not central) with uni- or multishots. It has three advantages: functional and/or orthopedic assessment or distal anesthesia. Nerve block in “one shot” is somewhat risky given the tolerance of the products and the injected volume of less than 6 cm³ (allergic risk wound and neuropathic pain). “Multiple shots” nerve blocks require knowledge of the risk of systemic anesthetic drug leakage (initially neurological toxicity then cardio-circulatory). The amount of anesthetic drugs must not exceed 30 cm³, appropriate monitoring, the availability of an intravenous line, resuscitation equipment for treatment without delay, a certificate of competence to care emergency.

<http://dx.doi.org/10.1016/j.rehab.2012.07.839>

CO26-002-e

Comparison of diagnostic tibial motor nerve branches block with anaesthetics and selective tibial neurotomy in hemiplegic patients with spastic equinovarus foot

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Keywords: Hemiplegia; Muscle spasticity; Nerve block; Neurotomy

Introduction.– Tibial neurotomy is the surgical treatment of choice in case of spastic equinovarus foot without associated musculo-tendinous shortening. In order to confirm the surgical indication, diagnostic nerve block with anaesthetics of the tibial motor nerve branches are usually recommended.

Objective.– To compare the improvement observed after diagnostic block and after tibia neurotomy in case of spastic equinovarus foot in hemiplegic patients. **Material and methods.**– This prospective study evaluated 30 hemiplegic patients who benefited from diagnostic nerve block and tibial neurotomy with a 2 years follow-up. Triceps spasticity (Ashworth scale), tibialis anterior muscle strength (MRC scale), passive ankle dorsiflexion, gait parameters (10 meters walking test) and gait kinematics (video analysis) were assessed before and after diagnostic nerve block and 2 months and 2 years after selective tibial neurotomy.

Results.– The decrease in spasticity and the improvement in equinovarus deformity were similar after the diagnostic nerve block and 2 months and 2 years after neurotomy. The diagnostic nerve block did not reveal the slight increase in gait speed and in tibialis anterior muscle strength that was observed 2 years after neurotomy. No limitation of the passive ankle dorsiflexion was observed.

Conclusion.– The diagnostic nerve block with anaesthetics predict the decrease in spasticity and the improvement in gait kinematics observed after tibial neurotomy in case of spastic equinovarus foot. We recommended the use of this diagnostic tool, which also allows the patient to feel what could be the benefit from a neurotomy.

<http://dx.doi.org/10.1016/j.rehab.2012.07.840>

CO26-003-e

Validation of a guideline to treat the neurologic claw toe including the practice of nerve blocks: A national survey

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Keywords: Neurologic claw toe; Stroke

Objectives.– The claw toe is a common and disabling in patients with hemiplegia. Unfortunately in France, there are no recommendations or consensus on its treatment. The objective of this work is to offer therapists a grid to facilitate consensus decision-making in the management of neurologic claw toes.

Method.– Initially, we constructed a guideline on the treatment of neurologic claw toes by synthesizing the literature data and service experience of PMR of Toulouse. Then, we evaluate this guideline by national medical experts in this field, to propose a consensual decision-making grid. The evaluation concerned, first, the overall quality of the guideline especially the realisation of a nerve block to xylocaine prior to completion of an injection of botulinum toxin. Then, through participation of the intrinsic muscles in the claw, as evidenced by a positive block of the posterior tibial nerve at the ankle, selection of the muscle to inject was performed: flexor digitorum brevis or quadratus plantae. Finally, the prescription of treatment by orthopedic insoles retrocapital support was discussed.

Results.– This survey has generated a real interest from experts contacted with a response rate of 100% in a very short time. Overall, this grid is shared by most experts, from which evaluates its usefulness to 6/10. They offer mainly treatment retrocapital soles with support and often do not perform nerve block before inject toxin. Moreover, in case of participation of the intrinsic muscles in the claw, they are more accustomed to inject muscle flexor digitorum brevis.

Discussion.– The completion of this investigation has raised the problem of blocks considered by ASFA as acts of anesthesia, while many PMR do in their service. Finally, from a methodological standpoint, it would be interesting to repeat this process to facilitate the management of the main weaknesses of hemiplegics patients as stiff-knee or equinovarus.

<http://dx.doi.org/10.1016/j.rehab.2012.07.841>

CO26-004-e

Efficacy of the selective neurotomy in the treatment of the spastic equinovarus foot among adult stroke patients following the ICF model. A randomized, single-blind, controlled trial

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Purpose.– To demonstrate the efficacy of the selective neurotomy in treating spastic equinovarus foot (SEF) in adult stroke patients.

Material and methods.– Sixteen chronic stroke patients were recruited and randomised in two groups: eight patients underwent a tibial neurotomy, the eight others received botulinum toxin injections in the calf muscles. Body structures and functions (MAS, Tardieu scale, L-path, MRC scale, passive ROM, instrumented gait analysis), activities (ABILOCO), participation (SATIS-Stroke) and quality of life (SF-36) were evaluated in both groups by a blind assessor before, 2 months and 6 months after treatment.

Results.– In comparison with botulinum toxin injections, tibial nerve neurotomy induced a higher reduction in spasticity and a more significant decrease in total viscoelastic stiffness of the ankle. Both treatments induced a comparable improvement of ankle kinematics during gait, while none of them induced a significant muscle weakening. Activities, participation and quality of life were not significantly modified in both groups.