Affection de l’appareil locomoteur (I)/Revue d’Épidémiologie et de Santé Publique 55S (2012) e48-e53

Material and method.– We describe the use of TB in the treatment of cervico-thoracic and lumbar myofascial syndrome (MFS): systematic review of the literature.

Results.– For the neck, the cervico-thoracic SMF concern the upper trapezius, supraspinatus, rhomboids, angular, and cervical paraspinal muscles [1]. After BT injection, prospective studies show an improvement in pain and quality of life for 3 months. Randomized controlled trials (RCT) found at 1 and 3 months analgesics and functional results with BT equivalent to other products (saline, corticosteroids) and dry needle therapy. Two RCTs show a greater analgesic and functional effect 1 and 2 months after BT injections compared to saline solution. For upper limb pain, one RCT (MFS of the scalenae muscle), shows after BT injection an analgesic gain at two months superior to corticosteroid injections. For low back pain, the MFS concern iliopsoas, erector spinae and rectus of the abdomen. Foster et al. [2] show that after injection of TB in the erector spinae muscles, pain relief and functional gain to 1 and 2 months are greater than the saline injection. Similar results were found compared to traditional treatment by acupuncture.

Conclusions.– The use of BT in the treatment of neck pain and low back pain is an interesting alternative therapeutic in axial MFS. Its superiority compared to other treatments remains to be demonstrated.

References

http://dx.doi.org/10.1016/j.rehab.2012.07.130

CO02-007-e
Botulinic toxin in articular stiffness’ rehabilitation of orthopaedic origin: A new help?
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Keywords: Botulinic toxin; Articular stiffness; Pain; Rehabilitation

Purpose.– Rehabilitation of orthopaedic articular stiffness represents a major therapeutic challenge. In rebellious cases, injection of botulinic toxin in bi-articular muscles could represent an interesting adjoinement to the usual therapies.

Observations.–
– A 29-years-old female patient hospitalised after her fourth knee arthrolysis following an anterior cruciate ligament reconstruction. At admission, the ROM was F/E 90°-5°. Rapidly a 25° stiff knee flexion appears with important difficulties while walking. The electro-neurophysiography shows a hyperactivity of hamstrings semi-membranous and short head of the femoral biceps muscles. Injections of 100U of botulinic toxin in femoral biceps, 50U in the others hamstrings and gastrocnemius muscles were done. After 3 weeks the stiff knee flexion progressively reduces (F/E 125°-5°), pain reduces by 30% and walking improves (see videos). At 3 and 6 months, injections were repeated for a persistent muscular hyperactivity. At 1 year, the pattern of walking is back to normal. The patient has fully returned to work and started adapted sport activities.
– A 34 years old patient that had surgery for a radial head dislocation and fracture. Osteosynthesis material was taken off 15months followed by a secondary stiffening resisting ambulatory treatment. At entry, the ROM was F/E 130°-0°-0 with a stiff stop in extension. Pronos/supp 80°-0-60°. On the EMG: biceps muscular hyperactivation. Injection of 25U of botulinic toxin in biceps short head followed by intensive physiotherapy and occupational therapy for 5 weeks. Decrease in biceps hypertonia 7 days after the injection. ROM at discharge F/E 135°-12°-0, P/S 80°-0-60°. Progressive return to work as a heating engineer achieved. At 3 months: F/E: 130°-25°-0, P/S: 80°-0-60°.

Discussion.– Most often used in treatment of spasticity, botulin toxin could in some cases allow to break a vicious circle. The neuromuscular blockade allows a decrease in muscular tonus and facilitates rehabilitation. The toxin transported through the axons to the central nervous system and the adjacent neurones also show an analgesic effect through the modulation of some neurotransmitters’ secretion such as the substance P, CGRP and glutamate.

Further reading
Zhang T Inflammopharmacology 2011;19:21–34
http://dx.doi.org/10.1016/j.rehab.2012.07.131

CO02-008-e
Interest of the botulinum toxin for the diagnosis and treatment of the piriformis muscle syndrome
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Keywords: Botulinum toxin; Buttock pain; Sciatica; Sciatic nerve entrapment syndrome; Injection

Objective.– The piriformis muscle syndrome (PMS) arises a problem as diagnostic because there are not clinical and paraclinical pathognomonic signs, as therapeutic. The chronic PMS can be treated by muscular injection of botulin toxin (BTA). The objective is to assess the efficiency and the interest of BTA.

Methods and patients.– Retrospective study of 46 patients treated by piriformis injection of BTA guided by CT. Clinical, electrological and imaging diagnosis rules out the spine and pelvic causes of buttock pain and/or sciatica. Pain assessment by the patient: decrease < or $\geq$ 50% of the pre-therapeutic pain.

Results.– Sixteen patients are examined at 4 months: 62.5% of good results (pain decrease $\geq$ 50%). Second BTA injection in 12 patients: 63% of good results but during only 1 month. Third BTA injection in three patients: 100% of good results during only 1 month. Phone assessment of 14 patients with initial good results: Five patients think that have a partial benefit continuing at mean 30 months. Correlation don’t exist between results and age, the time elapsed since the beginning of the PMS (mean 33 ± 44 months), the low back pain, the location of the pain, the electrophysiological modifications of the H reflex.

Discussion.– Four published studies find a statistically significant efficiency of the BTA between 2 and 4 months. In our study these good results don’t last more long time. The BTA injection repetition don’t give a cumulative effect and the efficiency even decreases. So, the therapeutic interest is limited. On the other hand the BTA transitory efficiency at short-term could be used to confirm the diagnosis of PMS because BTA has its principal action in muscle without diffusion, contrary the corticoïds.

Conclusion.– The BTA injection into the piriformis muscle for the chronic or resistant PMS is becoming for us a certain diagnosis test associated to clinical and paraclinical signs for the aim to better select the patients to a surgical treatment. Nevertheless, the validity of this strategy must be confirmed by a prospective study.

http://dx.doi.org/10.1016/j.rehab.2012.07.132