

Twelve sessions were conducted.

**Results.**— Amnesic effect on pain may occur during mobilization.

Flexion: 95° active.

Pain: 0/10 at rest and walking.

Improving the quality of walking with a smooth and not increase walking speed without technical assistance.

Resumption of his previous 26 months work after the diagnosis of CRPS-I.

Scintigraphy: net regression process CRPS-I detected in his right knee in 2010.

Regularization of all households hyperactive.

**Discussion and conclusion.**— This would be for the benefit of nitrous oxide in the mobilization of a stiff joint including CRPS-I through a permitting algorithmic functional improvement and joints that enabled our patient to return to his previous work.

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P089-e

### Intrathecal ziconoide and baclofene, an efficient association



J.-C. Kleiber<sup>a,\*</sup>, A. Rapin<sup>b</sup>, J.-M. Coulon<sup>b</sup>, E. Theret<sup>a</sup>, F. Boyer<sup>b</sup>, P. Peruzzi<sup>a</sup>

<sup>a</sup>Service de neurochirurgie, CHU de Reims, 45, rue Cognacq-Jay, 51100 Reims, France

<sup>b</sup>Service de MPR, CHU de Reims, 45, rue Cognacq-Jay, 51100 Reims, France

\*Corresponding author.

E-mail address: [jean-charles.kleiber@neurochirurgie.fr](mailto:jean-charles.kleiber@neurochirurgie.fr)

**Keywords:** Chronic pain; Spasticity; Ziconotide; Baclofene; Intrathecal treatment

**Introduction.**— Intrathecal ziconotide has shown its efficiency in chronic resistant pain, we studied the association with baclofene in spastic pain management.

**Patients.**— Seven patients, 4 female, 3 male, average age 54.3 years old [39; 75] have been treated with continuous intrathecal infusion of baclofene, ziconotide and morphine. Four had a failed back surgery syndrome, 1 peripheral nerve lesion, 1 spine injury, 1 cerebral palsy. Ziconotide has been introduced after the failure of an intrarachidian morphine + baclofene treatment.

**Results.**— The average decrease of pain intensity after we began the ziconotide treatment was equal to 31 mm on visual analog pain scale, from 68 to 37 mm after ziconotide introduction. Ziconotide adding had no effect on spasticity which was already efficiently managed by intrathecal baclofene. The average follow-up was 13.3 months [2; 26 months]. Average ziconotide posologies were 3.1 µg per day [1.25; 5.7 µg per day] and 342 µg per day [43; 1800 µg per day] for baclofene. Ziconotide had to be stopped for 3/7 (43%) because of side effects, with a full recovery after treatment interruption. One patient kept auditory hallucination but did not want any posology modification since he was satisfied with the analgic level. Most of the side effects occurred during the first semester of our using of ziconotide due to a too fast dose increase. The commonest side effects were: nausea, dizziness, ataxia, visual and/or auditory hallucination. No treatment failure has been noticed for two years. Initial treatment administration has to be as low as possible (1 µg per day in our population) in order to obtain analgic effect without major side effects. A slight increase of doses (+0.3 µg per week) allows pain management without side effects.

**Conclusion.**— Ziconotide in association with intrathecal baclofene is a good way to deal with chronic pain with spasticity.

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### Algodystrophy and pregnancy: About a new case



I. Bel Haj Youssef<sup>\*</sup>, Z. Alaya, K. Bakkouche, H. Zeglaoui, S. Belghali, H. Ben Fredj, A. Jamel, E. Bouajina

CHU Farhat Hached Sousse, 115, avenue Mohamed Salah Sayadi Souani, 5000 Monastir, Tunisia

\*Corresponding author.

E-mail address: [ihbellhajyoussef@yahoo.fr](mailto:ihbellhajyoussef@yahoo.fr)

**Keywords:** Algodystrophy; Pregnancy

The algodystrophy is a regional pain syndrome, characterized by complex neurovascular abnormalities. Pregnancy appears through mechanical factors promote dystrophy of the lower limbs. We report a case of bilateral hip dystrophy diagnosed during postpartum.

This is a 31-year-old woman, primipara, who presented in the third quarter of pregnancy (35 weeks gestation) mechanical bilateral groin pain with functional impairment. She has consulted in postpartum (4 days after birth). The review noted a limp, functional impairment with a VAS pain 70%. Standard radiographs postpartum showed speckled locoregional demineralization hips. MRI confirmed the diagnosis of CRPS hips. The patient took analgesic treatment with a discharge and rest for 3 months. She has not received bisphosphonates because she breastfeeding. Disease duration was 24 weeks. The evolution was marked by the persistence of residual pain (VAS 20%) without sequelae.

The analysis of our results compared to literature, allows to identify the main characteristics of this variety of reflex sympathetic dystrophy: gradual onset in the second or third trimester, location in the hip alone or associated with other locations [1–3]. MRI is currently the modality of choice for the early and differential diagnosis [1,3]. The course is generally favorable [3].

Algodystrophy during pregnancy is rare and is often misunderstood. MRI have an important place in the diagnosis of this disease. The safety of bisphosphonates during pregnancy and lactation remains to be demonstrated.

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P091-e

### Clinical, ultrasonographic and CT markers for botulinum toxin injections into the piriformis muscle



F. Michel<sup>\*</sup>, S. Aubry, P. Decavel, L. Tatu, E. Toussiroit, E. Aleton, B. Parratte

CHU Jean-Minjoz, boulevard Fleming, 25000 Besançon, France

\*Corresponding author.

E-mail address: [fmichel@chu-besancon.fr](mailto:fmichel@chu-besancon.fr)

**Keywords:** Piriformis muscle; Ultrasound; Botulinum toxin

**Objective.**— The study of the literature concerning the treatment of piriformis muscle syndrome (PMS) to validate the role of botulinum toxin injections performed after failure of medical management and rehabilitation. The few reported series confirm the results significantly superior to placebo injections and even repeated anesthetics and/or corticosteroids. The piriformis muscle belongs to the deep part of the gluteal region where the need for radiological identification. Our team couples the ultrasound with electromyography detection, allowing the latter through an active lateral rotation maneuver (in a subject supine on the healthy side) to optimize the injection site. Ultrasound, with constant technical progress and the development of new sensors, allows very interesting morphological evaluation of the muscle and its relationship with the main sciatic nerve. The objective of this study was to validate the clinical and ultrasonographic markers compared to CT and anatomical data.

**Patients and methods.**— Five patients supported for SMP received botulinum toxin injections under ultrasound and CT with a minimum of 3 months between each injection, the second injection performed because of insufficient improvement of symptoms.

**Results.**— The clinical markers of projection of the piriformis muscle is defined by a triangle whose base joins the posterior superior iliac spine and the upper part of the inter-gluteal fold, and whose summit is next to the upper pole of the greater trochanter. Ultrasound (abdominal convex probe tone) body muscle is visualized on the lateral edge of the sacrum with a depth of 4.8 cm for the

superficial surface of the muscle and an average thickness of 1.9 cm (the most Big measured thickness).

CT tracking validates the position of the needle in the proximal portion closest to the base of the triangle defined above, as well as anatomical sections performed on cadaver.

**Conclusion.**– Botulinum toxin injections for difficult sites or deep benefit from advances in imaging and in particular that of ultrasound coupled with electromyography provides an interesting analysis of the injected muscle and secure. This association, even if it requires prior training, is easy to implement, non-radiating and deserves to be released.

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### **MRI evaluation of piriformis muscle modifications induced by botulinum toxin injections**

F. Michel<sup>\*</sup>, M. Alshaikh, B. Parratte, P. Decavel, E. Toussiro, B. Kastler, S. Aubry

CHU Jean-Minjoz, boulevard Fleming, 25000 Besançon, France

<sup>\*</sup>Corresponding author.

E-mail address: [fmichel@chu-besancon.fr](mailto:fmichel@chu-besancon.fr)

**Keywords:** Piriformis muscle; MRI; Botulinum toxin

**Objective.**– Botulinum toxin injections are a treatment increasingly distributed and recognized as part of the management of piriformis syndrome. Although the

effects of analgesics and muscle relaxants toxin are well known, the structural changes induced are less. The aim of our study was to evaluate the MRI morphological changes in piriform muscle treated by injection of botulinum toxin for some patients by surgical avulsion distal.

**Patients and methods.**– Seventeen patients with piriformis syndrome were treated by injection of botulinum toxin (Botox) or by surgical avulsion. This is a retrospective study with patients (mean age 43 years) who all underwent MRI of pelvis. The following parameters were evaluated and compared to the contralateral normal muscle: maximum thickness, volume of the piriformis muscle, and fatty infiltration according to the classification of Goutaillier.

**Results.**– It is found on the symptomatic side significantly reduced the thickness ( $P < 0.001$ ), volume ( $P < 0.001$ ) and increased fatty infiltration ( $P < 0.004$ ) of the piriformis muscle compared with the contralateral side considered normal. Univariate analysis in patients treated showed a significant reduction in the thickness ( $P < 0.001$ ), volume ( $P < 0.001$ ) and increased fatty infiltration ( $P < 0.001$ ) treated piriformis muscle injection botulinum toxin, whereas we found no significant difference in these parameters after surgical treatment.

**Conclusion.**– This study is to our knowledge the first that shows qualitatively and quantitatively the effects of treatment with botulinum toxin in the piriformis muscle atrophy and fatty infiltration. This preliminary study should be correlated with clinical benefit and position control instead of a morphological MRI in the follow-up.

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