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
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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 Goutailier.

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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