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ROLE OF BOTULINUM TOXIN INJECTION IN THE MANAGEMENT OF SPASTIC PELVIC FLOOR DISEASE.

Hypothesis / aims of study

The aim is to evaluate the role of motor point block using botulinum toxin injection in improving constipation in patients with spastic pelvic floor syndrome.

Study design, materials and methods

This study included 20 adult patients (6 females and 12 males) clinically diagnosed to have obstructive constipation due to spastic pelvic floor muscles. The diagnosis was confirmed by needle electromyography (EMG) examination of the external anal sphincter, puborectalis and levator ani muscles during rest, squeezing and straining. Increased resting tone and failure of muscle relaxation during strain in the external anal sphincter and puborectlis muscles were considered as evidence of muscle spasticity.

EMG guided local injection of botulinum toxin type A into the spastic pelvic muscles was performed. The dose was adjusted for each patient according to the degree of muscle spasticity detected by EMG (number of turns/sec. during strain). A disposable hypodermic EMG monopolar needle electrode (Teflon®-coated, pre-sterilized, stainless steel needle, and 75 mm in length) was used for injection. 40-70 units of botulinum toxin type A diluted in saline were used for injection of each muscle, equally divided on either side of the muscle. Sedation was not required.

This was followed by a rehabilitation program (EMG biofeedback) for duration of 4 weeks. Biofeedback was used to train patients to relax their pelvic-floor muscles during straining and to coordinate this relaxation with abdominal maneuvers to enhance the entry of stool into the rectum. In addition to these sessions, patients were also taught mental exercises and relaxation techniques that were practiced at home for at least 5 to 10 minutes every day. Clinical follow ups and EMG reassessment were performed.

Results

The age of the patient group ranged from 17 to 39 years with a mean of 29.1 ± 7.28 years. Nine patients had spastic puborectalis muscle alone, ten patients had spasticity of both external anal sphincter and puborectalis muscles, while only one patient had spasticity in the three examined muscles.

there was a statistically significance improvement after botulinum toxin injection and biofeed back as regard frequency of defecation/week (40% of the patients regained daily defecation habit), straining during defecation (40% of the patients had no straining at all after injection, 30% of the patients experienced mild straining during defecation) and frequency of consumption of laxatives/ week (60% of the patients completely stopped to use laxatives following the injection). There was also a statistically significant improvement as regard abdominal distention (reduced to 50%), sensation of incomplete defecation (reduced to 50%) sensation of anorectal blockage during defecation (reduced to 30%), and hard stools (reduced to 20%). Also, the usage of manual maneuvers to facilitate defecation was reduced from 50% to 20% and The tenderness of the PR muscle border during P/R examination was reduced from 70% to 30%.. This improvement started after about one week and lasted for 12-20 weeks. Significant improvement in the relaxation of spastic pelvic muscles could be detected by EMG. Improvement was not detected at all in two patients who had spasticity in both EAS and PR muscles. However, eighty percent of the patients were satisfied of the overall results. No adverse systemic effects or permanent sphincter damage resulted from the injection of the toxin.

Interpretation of results

Anal EMG during straining demonstrated abnormal function of the EAS and/ or the PR muscle either failure to relax to enable expulsion or paradoxical contraction with attempting to defecate resulting in a functional obstruction to stool outflow. The number of turns/second during strain is a useful parameter for the dose adjustment of botulinum toxin injection, and also for follow up.

Concluding message

Local botulinum toxin injection seems to be a simple, easy and safe method for short-term treatment of constipation in spastic pelvic floor syndrome. It might represent a useful addition to the few available therapeutic options for spastic pelvic floor syndrome.

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Was this study approved by an ethics committee?	**Yes**
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Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**Yes**