Use of Botulinum Toxin in Anal Fissure

To the Editor—Important in the origin of a chronic fissure is the vicious circle of inflammation, pain, and sphincter spasm.[1] Medical management can tackle the inflammation and the pain and, hence, the spasm. Anal dilation, like lateral sphincterotomy acts by a direct reduction in anal tone; posterior sphincterotomy by removal of the ulcer and the secondary changes as well as causing a reduction in tone. We investigated a new mode of therapy involving injection of the external anal sphincter with botulinum toxin. This works by causing a temporary paresis of the injected muscle, allowing the ulcer to heal. Within a few weeks reinnervation occurs through sprouting of the nerve ends. A 42-year-old woman had several months history of sharp pain during and after defecation, with blood on the toilet paper. Initial management with suppositories, ointment, and anal dilation over a period of 10 weeks brought no appreciable benefit. On examination there was an anal fissure with a small sentinel pile in the posterior commissure. There were no secondary changes such as fistulas to be seen. Digital rectal examination revealed an increased sphincter tone and was obviously painful. We injected 0.1 ml of dilute toxin (containing 1 ng of pure toxin, respectively, about 2.5 units of Botox®, Allergan Pharmaceuticals, Irvine, CA) into the external anal sphincter laterally on both sides with a standard 27-gauge needle. The injection infiltrated the external sphincter and experience shows that directly or indirectly the internal sphincter is also usually involved.

The following day the patient said she was pain free. On the third day after the injection, the sphincter tone was obviously reduced. The tone of the puborectal sling was unaltered. Digital examination was now comfortable. We recommend daily sitz baths and anal tampols for the first three months. Twelve weeks after the treatment, the fissure was found to be completely healed, and the patient had no complaints. The sphincter tone was normal.

Consequences of operative management include running the risks of perioperative and postoperative complications; three to five days as an inpatient and occasionally partial incontinence.[2–4] Incontinence of flatus or even feces postoperatively, as examined by different authors,[3,5,6] is between 30 and 40 percent. Theoretically, the injection of botulinum toxin[7] can also lead to incontinence. If this occurs it is only temporary, since after a few weeks reinnervation occurs and with it complete continence is regained.

Injection of botulinum toxin into the anal sphincter is a possible new mode of therapy, an uncomplicated anal fissure with increased anal tone. The therapy is relatively painless (only injection), can be carried out as an outpatient, and leaves no lasting damage to the continence organ. This therapy is contraindicated with complicated fissures, *e.g.*, with large sentinel piles, gross scarring, and in the presence of perianal abscesses or anal fistulas.

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