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## Tap water iontophoresis versus glycopyrrolate iontophoresis

### Dear Editor

I submit my comments on the recent article by Dr Perera and Professor Sinclair<sup>1</sup> on hyperhidrosis and bromhidrosis (*AFP* May 2013). The authors note that tap water is significantly less effective than glycopyrrolate in iontophoresis for palmoplantar hyperhidrosis. I feel there is weak evidence for the inferiority of tap water. In fact, I have major reservations about interpreting the findings of Dolianitis et al,<sup>2</sup> who compared the efficacy of unilateral tap water iontophoresis, unilateral glycopyrrolate iontophoresis and bilateral glycopyrrolate iontophoresis after a single treatment session in 20 subjects with palmoplantar hyperhidrosis. Tap water iontophoresis has to be repeated regularly to be effective, initially requiring 20–30 minute sessions several times a week.<sup>3</sup> Most patients report an improvement after 6–10 sessions, and the interval between treatments can then be stretched out to 1–4 weeks.<sup>3</sup> In successful cases, treatments often need to be maintained indefinitely to control the symptoms. Many patients purchase their own machines, and can be trained for home treatment. In my experience, tap water is as effective as glycopyrrolate iontophoresis, and I am aware of unpublished negative studies comparing the two treatments (ie. reporting bias).

For the benefit of interested *AFP* readers, I would also like to summarise the strength of available evidence for the treatments used in hyperhidrosis. Botulinum toxin A is effective for the treatment of primary axillary and palmar hyperhidrosis, based on a systematic review of five randomised clinical trials (RCTs), including 711 patients.<sup>4</sup> Iontophoresis is effective for treating palmar, plantar, and axillary hyperhidrosis, based on a single unblinded RCT.<sup>5</sup> There are no good quality RCTs of the efficacy and safety of topical aluminium compounds, systemic therapy or surgical interventions in hyperhidrosis.

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### Reply

#### Dear Editor

We thank Dr Gunathilake for his comments regarding the comparable efficacy of tap water iontophoresis versus glycopyrrolate iontophoresis. The effectiveness of glycopyrrolate over tap water has been documented a number of times within the literature, extending as far back as the early 1970s.

In 1974, Abell et al<sup>1</sup> published a study examining a group of 53 patients. Twenty-six participants with hyperhidrosis of either palms, soles or axilla were treated with tap water iontophoresis twice weekly, and then weekly thereafter where possible. The remainder were treated with glycopyrronium bromide (glycopyrrolate)<sup>2</sup> or hexopyrronium bromide at intervals which were determined by the period in which they did not sweat. Of the patients treated with tap water, four remained dry in between weekly treatments and five remained symptom free for between 4 and 8 weeks of multiple treatments with tap water before relapsing.<sup>1</sup> In contrast, in most participants treated with glycopyrrolate iontophoresis, the prolonged hypohidrotic effect was apparent with three patients discharged from the clinic after being dry for more than 6 months.<sup>1</sup> Treatment of the axilla was not as promising with continuous suppression of sweating not achieved

with tap water treatment and a mean duration of 7.3 days of hypohidrosis in glycopyrrolate iontophoresis.<sup>1</sup>

More recently, Askari et al<sup>3</sup> published a chart review of 70 patients (57 had complete documentation) with palmoplantar hyperhidrosis. Each patient was initially treated with tap water iontophoresis. The authors defined a good clinical response, as participants who responded well after office treatments and requested a home unit. If patients had a minimal or slow response to tap water then they were treated with glycopyrrolate iontophoresis. The study revealed that 53 patients responded to either iontophoresis treatment. Of the responders, tap water was only effective in 60% of patients, while the remaining 40% of patients responded to further treatment with glycopyrrolate after tap water had failed to provide an adequate response.<sup>3</sup>

We are not aware of any published studies that claim that tap water iontophoresis is more effective than, or as effective as, glycopyrrolate iontophoresis. Without further studies to the contrary, we believe that tap water iontophoresis is less effective than glycopyrrolate iontophoresis.

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