Novochizol-mediated extension of Botulinum toxin-specific inhibition of sweating in rats AD INTERIM EXPERIMENTAL RESULTS

Date of administration: February 5, 2021
Date of ad interim analysis: February 26, 2021

Operating hypothesis tested: Novochizol-formulated Botulinum toxin extends the anti-perspiration activity of a commercial preparation of Botulinum toxin (Xeomin ®) following sub-cutaneous injection and pilocarpine stimulation

Treatments and sites of injection in each animal:

Commercial Xeomin formulation, 1 U	Right hind paw
Novochizol-Xeomin formulation, 1 U	Left hind paw
Novochizol, 0.25% solution	Right front paw
Physiological solution	Left front paw

Methods

Rats were anesthetized through an intraperitoneal injection of Zoletil 100. Each paw (plantar surface) was injected a 50 µl sample (as shown in the table above) using an insulin syringe.

Pilocarpine iontophoresis (sweat test) was carried out after 1,2 and 3 weeks. A 1% solution of iodine in ethanol was applied over the entire surface of the paws and let to dry. A suspension of starch in mineral oil (5 gr/ml) was then applied to each paw, followed by an injection of pilocarpine (50 µg) beneath the plantar surface. The top portions of the paws were then observed and phographed. Active sweating manifested itself through the formation of black spots at the exit points of sweat gland ducts and were clearly visible by the naked eye.

Results

The upper skin of the front paws reacted to pilocarpine administration within 1-2 minutes. Injections of physiological solution or Novochizol suspension did not affect sweating.

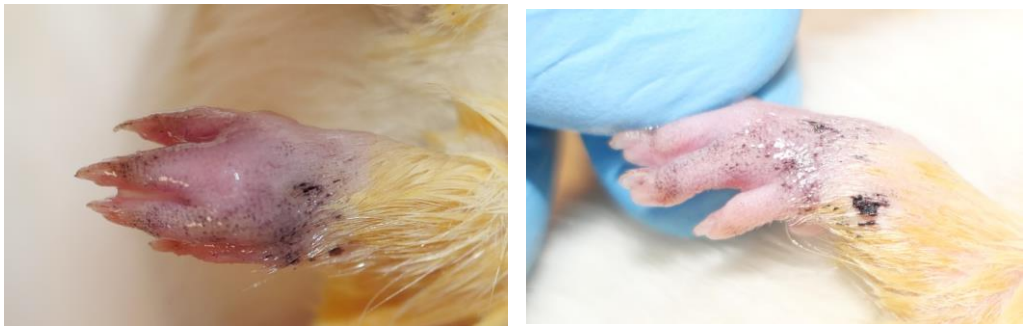

Fig 1. Front left paws, injected with physiological solution and stimulated with pilocarpine after 3 weeks : sweating after 1 min (left) and after 5 mins (right).

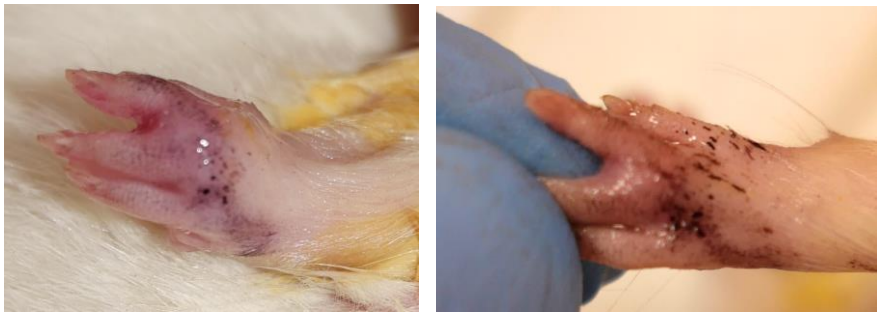

Fig 2. Front right paws, injected with Novochizol suspension and stimulated with pilocarpine after 3 weeks : sweating after 1 min (left) and after 5 mins (right).

At 1 and 2 weeks after the beginning of the experiment, both Xeomin- and Novochizol-Xeomin - treated paws did not show any evidence of pilocarpine-induced sweating .

However at week 3, Xeomin-treated paws were capable of sweating again, while Novochizol-Xeomin still resisted sweating after pilocarpine stimulation.

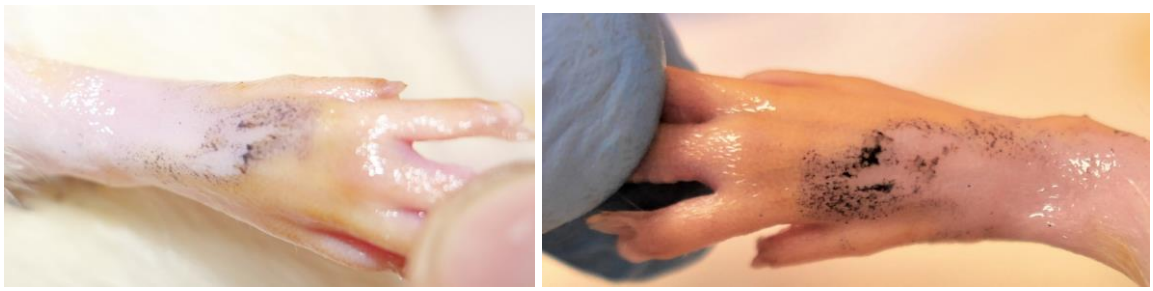

Fig 3. Hind right paws, injected with commercial Xeomin preparation (1U) and stimulated with pilocarpine after 3 weeks : sweating after 1 min (left) and after 5 mins (right).

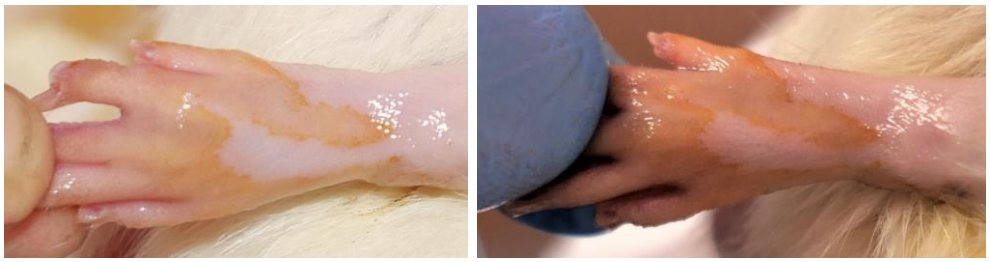

Fig 4. Hind left paws, injected with Novochizol-Xeomin formulations (1U) and stimulated with pilocarpine after 3 weeks : **absence of sweating** after 1 min (left) and after 5 mins (right).

The experiment is in progress and will be carried out with weekly pilocarpine stimulations until sweating capacity is restored in all animals.