Study Protocol Summary

Study Title:
Streamlined Facial Rejuvenation: A Randomized Split-Face Trial of Premixed Intradermal Botulinum Toxin Type A and Hyaluronic Acid Biorevitalization

Principal Investigator:
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Study Design:
Prospective, randomized, double-blind, split-face clinical trial

Study Duration:
Start date: May 2024
End date: July 2025

Trial Registration:
ISRCTN (registration pending final identifier; reference number provided)

Ethical Approval:
Approved by the Institutional Review Board (IRB) of Mutah University, Jordan

Background and Rationale:
Facial aging involves both dynamic muscular activity and deterioration of dermal quality. Botulinum toxin type A (BoNT-A) is well established for dynamic rhytides, whereas biorevitalizing formulations such as NCTF®135HA enhance hydration, elasticity, and dermal renewal. This study investigates the synergistic potential of combining BoNT-A with NCTF®135HA for comprehensive facial rejuvenation in a single treatment session.

Objectives:

- **Primary Objective:** Evaluate improvement in wrinkle severity using the Wrinkle Severity Rating Scale (WSRS) at 60 days post-treatment.
- **Secondary Objectives:** Assess changes in skin hydration, firmness, radiance, tone homogeneity, and patient-reported satisfaction.

Participants:
52 adults aged 35–55 years with mild to moderate facial rhytides and no facial procedures within the previous 6 months.

Randomization and Blinding:
Participants were randomized via a computer-generated sequence to receive BoNT-A monotherapy on one facial side and BoNT-A + NCTF®135HA on the contralateral side. Allocation was concealed by an independent staff member. Both participants and evaluators were blinded to treatment assignment.

Intervention:

- **Side A:** Intradermal BoNT-A (Dysport® 20 units diluted in saline)
- **Side B:** Premixed BoNT-A (20 units) + NCTF®135HA (3 mL) injected intradermally via micro-droplet technique
  Single-session treatment; standardized injection grid pattern (1 cm spacing).

Outcome Measures:

1. **Primary outcome:** WSRS score reduction (clinician and patient rated).
2. **Secondary outcomes:**
    - Visual analog scale (VAS) for skin hydration, firmness, radiance, tone homogeneity.
    - Global Aesthetic Improvement Scale (GAIS).
    - Patient satisfaction and comfort questionnaire.
    - Safety and adverse event reporting.

Data Management:
All data are anonymized and stored on password-protected, encrypted computers. Only the principal investigator has access to re-identification keys.

Risks and Safety:
Minimal risks include transient bruising, erythema, or swelling. No serious adverse events anticipated.

Expected Outcome:
This study aims to provide controlled clinical evidence on the synergistic effects of combining BoNT-A and NCTF®135HA for improving skin quality, hydration, and overall aesthetic outcome in a single, minimally invasive session.