-continued

$$\frac{T_o - T_t}{T_o} - \frac{C_o - C_T}{C_o} \times 100$$

where T_o and C_o are the pretreatment pupil diameters of the test and control eyes respectively, and T_t and C_t are the pupil diameters of the test and control eyes respectively at time t.

The mean differences (with standard error bars) in percentage change between the test and control eyes at each time point are depicted graphically in FIG. **5**. This shows that there is significant magnitude and duration of miotic response to pilocarpine formulation when applied at considerably lower volume than with conventional methods of treatment.

What we claim is:

1. Electrodynamic spraying apparatus for dispensing a measured unit does of an opthalmically active liquid formulation for application to the corneal surface of an eye, said apparatus comprising:

a housing;

at least one spray nozzle attached to said housing having a liquid outlet of sufficiently small interior cross section to retain therein a measured unit does of formulation;

means within said housing for supplying said measured unit dose of formulation to said nozzle outlet;

means within said housing for causing said formulation to flow from said nozzle through said outlet;

at least one electrode adjacent said nozzle outlet, which electrode is spaced from said outlet and electrically insulated from said nozzle; and

means for applying an electrical potential difference between said spray nozzle outlet and said electrode of sufficient magnitude to draw said formulation from said outlet, and to atomize said formulation into a spray of electrically charged droplets;

said apparatus being adapted, when said nozzle outlet is in a spaced relationship with said corneal surface, to cause said measured unit dose of formulation to be drawn to said corneal surface in the form of electrically charged droplets and uniformly deposited thereon.

2. Apparatus as claimed in claim **1** wherein the means for supplying the measured dose of the formulation to the nozzle is a metered valve.

3. Apparatus as claimed in claim **1** wherein the means for supplying the measured dose of the formulation to said nozzle is a syringe-pump.

4. Apparatus as claimed in claim **1** which is capable of electrically charging the spray nozzle to potential of between 1 to 20 kV relative to said electrode.

5. The apparatus as claimed in claim **1** additionally including a receiving member for demountably attaching said nozzle, said nozzle being replaceable and adapted to contain a single measured unit dose of said formulation.

6. Apparatus as claimed in claim **5** wherein said means for causing said formulation to flow from said nozzle through said outlet being such that it simultaneously activates the high voltage generator.

7. Apparatus as claimed in claim **1** wherein said means for applying an electrical potential difference between said spray nozzle outlet and said electrode is a high voltage generator.

8. Apparatus as claimed in claim **7** wherein said high voltage generator is powered by batteries.

9. Apparatus as claimed in claim **8** wherein said batteries for the high voltage generator are located in the apparatus, which is suitably dimensioned for hand-held usage.

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