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Relationship between taste thresholds and antidepressant response: Preliminary findings

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o Abstract text

Introduction:

In healthy volunteers, light acting through serotonin pathways, decreases the threshold for sweet, but not salt taste; similar to SSRI paroxetine. In depressive disorders, there is deficiency of serotonin throughput, which is remedied by SSRI medications, and results in improvement in symptoms of depression. Thus, we report on taste thresholds before and after SSRI treatment.

Objectives

To study the variation in thresholds for sweet with SSRI treatment in depressed patients in short and long-term.

Aims

To compare the threshold for sweet (test) and salt (control) after 1 and 4 weeks of SSRI escitalopram therapy in depressed patients.

Methods

The project was approved by the institutional ethics committee. Following informed consent, depressed patients were initiated on escitalopram 10 mg/d (increased to 15 or 20 mg, if required after 1 week,). Taste recognition threshold, intensity and pleasantness were measured for sweet and salt. Each tastant was made -1 to -3 (100mM – 1mM). Regional recognition thresholds were determined at the tip of the tongue using a cotton bud well soaked in the tastant.

Results

Three males and 4 females of mean ages 39.1 years completed the study. There was significant shift to the left for sweet thresholds between days 0 and 7, and 7 and 28 [F(Dfn, Dfd = 9,242 (4,162) p<.0001]. A similar shift to the left was seen for salt but day 7 only [F(Dfn, Dfd = 6.213 (4, 162)] (Fig 1).

Conclusion

The increase in serotonin throughput as envisaged through SSRI treatment was paralleled by decrease in sweet thresholds.