

effects of buffered saline solution

on nasal mucociliary clearance and nasal airway patency

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To compare the effects of buffered hypertonic and buffered normal saline nasal spray on mucociliary clearance and nasal airway patency.

STUDY DESIGN AND SETTING

Double-blind trial with subjects acting as their own controls. Tertiary care academic medical center.

RESULTS

Buffered hypertonic saline and buffered normal saline both improved saccharine clearance times ($P < 0.0001$ for buffered hypertonic and $P = 0.002$ for buffered normal saline). Buffered hypertonic saline improved saccharine clearance times more than buffered normal saline (39.6% vs 24.1%, $P = 0.007$). Neither buffered hypertonic nor buffered normal saline significantly affected nasal airway patency.

CONCLUSIONS

Both buffered hypertonic and buffered normal saline nasal spray significantly improved saccharine clearance times without affecting nasal airway patency. Buffered hypertonic saline affected saccharine clearance times to a greater degree than buffered normal saline.

CLINICAL SIGNIFICANCE

Buffered hypertonic and buffered normal saline sprays both improve mucociliary clearance and should therefore be beneficial in conditions such as rhinitis and sinusitis, which are associated with disruption of mucociliary clearance. However, these sprays do not appear to affect the nasal airway. Patients may therefore benefit from other treatments for "nasal congestion."

EBM RATING:
B-2.