THE EFFECT OF NASAL OBSTRUCTION ON THE NASAL AND MIDDLE EAR MUCOSA IN EXPERIMENTAL ANIMALS

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Abstract

The effect of nasal obstruction on the nasal and middle ear mucosa was studied on 138 albino rats with unilateral and bilateral nasal obstruction for variable periods up to 3 months.

Group 1 was composed of 100 rats which were subjected to unilateral nasal closure. They were divided into 5 equal subgroups and were sacrificed after variable periods so as to study the histological changes of the nasal and ear mucosa.

Group II was composed of 38 rats, these being subjected to bilateral nasal closure. These had died within 9 days.

The nasal mucosa of the open side showed squamous metaplasia, vascular congestion and ciliary destruction, while in the closed side there was increased secretory activity without epithelial damage.

The ear mucosa showed no changes in the side of open nostril while mucosal oedema occurred in the side of closed nostril after 2 weeks.

The changes seen in the nasal mucosa of the closed side of the nose explain the beneficial effect of nostril closure in atrophic rhinitis.

Introduction

Nasal obstruction was accused by Bluestone et al., (1972) to be involved in the pathogenesis of otitis media by the Toynbee phenomenon but there is no scientific