NOISE-INDUCED GASTRIC LESIONS: A LIGHT AND SCANNING ELECTRON MICROSCOPY STUDY OF THE ALTERATIONS OF THE RAT GASTRIC MUCOSA INDUCED BY LOW FREQUENCY NOISE

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SUMMARY
Introduction: Exposure to low frequency noise (LFN) can lead to vibroacoustic disease (VAD), recognized as a systemic disease with lesions in a broad spectrum of organs. Although gastrointestinal complaints are common among individuals exposed to noise, only few studies tried to evaluate the digestive lesions. The authors performed this study in order to investigate gastric lesions in an animal model of VAD.
Material and methods: Adult Wistar rats were exposed to continuous LFN. After five weeks they were sacrificed. The stomachs were studied by light microscopy and scanning electron microscopy, and compared with stomachs of animals kept in silence.
Results: Superficial erosions were present in the noise-exposed animals. Massive cell death of the gastric epithelium was observed, both by light and electron microscopy.
Discussion: The erosions, reflecting cellular degeneration and death, occurred without inflammation, similar to what has been observed in other LFN-exposed organs.

Key words: gastric cell death, gastric erosions, light microscopy, scanning electron microscopy, low frequency noise, vibroacoustic disease, wistar rat model

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