

Nasal hyperreactivity to newspapers

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Summary

Nasal hyperreactivity occurs quite frequently while reading newspapers. This study consisted of 15 patients with vasomotor rhinitis with such problems and six asymptomatic volunteers. All subjects were exposed to printing ink and paper dust from newspapers. The effect was registered by nasal symptom score and rhinomanometry. Patients with vasomotor rhinitis reacted upon exposure to paper dust but not to printing ink. This exposure had no effect on the control group. The results indicate that paper dust is the causative agent in hyperreactivity to newspapers.

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Introduction

A lot of people experience sneezing, discharge and irritation in the nose while reading newspapers. In modern literature this phenomenon is considered to be a nasal hyperreactivity to printing ink [1]. However, it has not been clearly established which particular substance in the ink is the causative agent of the symptoms. Printing ink for newspapers contains soot dissolved in mineral oil. In wet conditions it has a weak smell and is not irritating to inhale. Possibly the printing ink is the true cause of the above described nasal symptoms. However, newspapers also contain paper dust which may induce reactions in patients with vasomotor rhinitis. This has been our experience with workers in the paper-mill industry.

The aim of this study was to find out if printing ink and/or paper dust cause symptoms in the nasal mucosa in patients with vasomotor rhinitis.

Material and Methods

The study included 15 non-allergic patients with vasomotor rhinitis and a history of nasal symptoms to newspapers in form of sneezing, itching, nasal blockage and watery discharge. Out of these 10 were females and five were males (21–60 years, mean age 45 years). A control group consisted of six healthy volunteers without nasal problems (four females and two males, age 21–55

years, mean age 35 years). None of the subjects used any medication apart from oral contraceptives.

Initially, the subjects spent 30 min adjusting to room temperature. Each subject was exposed first to printing ink and 30–60 min thereafter to paper dust. The printing ink was inhaled by nasal breathing for 1 min over a bottle of liquid fresh ink. The paper dust was sniffed into each nasal cavity in a standardized amount (2–6 mg).

The nasal symptoms of blockage, sneezing, discharge and irritation were registered on a 50 mm visual analogue scale ranging from no symptoms to severe symptoms. The effect was also recorded by anterior rhinomanometry of each nasal cavity according to Broms, Jonson and Lamm, [2]. The total nasal airway resistance (NAR) was calculated. The effect of each exposure was evaluated by recording the nasal symptoms and NAR immediately before and after each exposure, as well as 15 and 30 min later.

Results

The nasal symptoms before and after each exposure are shown in Fig. 1. The symptoms of nasal irritation, sneezing, discharge and blockage are pooled. The printing ink did not increase any of these symptoms among the patients with vasomotor rhinitis. On the other hand, paper dust did cause a significant increase in symptoms. This was observed at the time of paper dust exposure as well as 15 and 30 min after the exposure ($P < 0.01$, paired t -test). The control group did not react to either printing ink or paper dust. NAR did not show any significant changes after either stimulant in any group (Fig. 2).

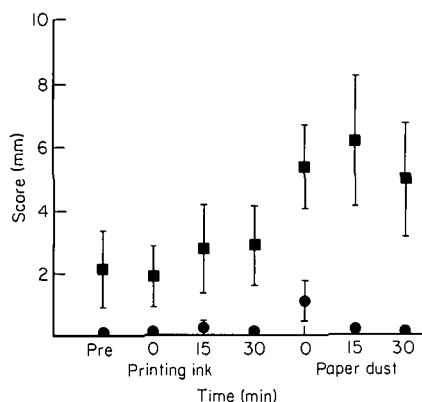


Fig. 1. The effect of provocation with printing ink and paper dust on nasal symptoms in patients with vasomotor rhinitis (■) and controls (●). Mean values $\pm$ s.d.

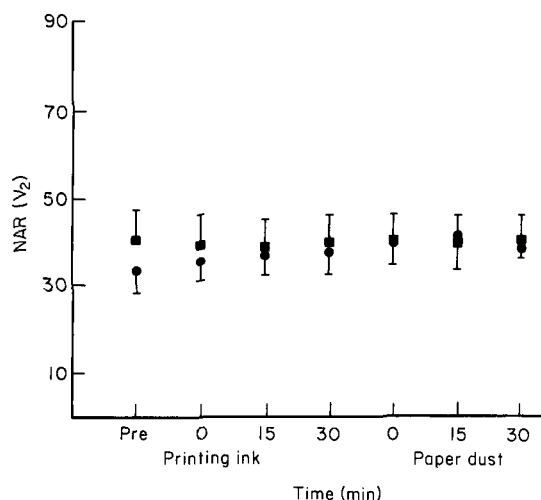


Fig. 2. The effect of provocation with printing ink and paper dust on nasal airway resistance in patients with vasomotor rhinitis (■) and controls (●). Mean values $\pm$ s.d..

Discussion

Patients with vasomotor rhinitis gave the order of the most to the least troublesome symptoms, according to a score system. This order of symptoms was: discharge, sneezing, blockage and irritation in the nose. The inten-

sity of the symptoms varied from one day to another but were most pronounced in the morning. Some patients refrain from reading their morning paper until the evening in order to avoid nasal symptoms. At this time the patients believed the newspaper ink was dry. However, it seems more likely the nasal hyperreactivity varies from morning to evening, being most pronounced in the morning. This theory is supported by the fact that many patients experience profuse discharge and sneezing when getting up in the morning even without coming in contact with a newspaper.

Sneezing, discharge and nasal irritation are reflex mediated effects controlled by the trigeminal nerve. Mucosal congestion and, thereby, nasal obstruction is a direct effect of the blood content of the capacitance vessels and/or an oedema in the mucosa [3]. The vasomotor reaction produced by newspapers is probably reflex mediated since no change in NAR appeared. The patients' subjective experience of nasal blockage is probably due to accumulation of an increased amount of secretion. Exposure to cold or heat or the odour of sharp smelling substances like menthol is known to cause subjective nasal blockage, not related to NAR increase [4].

Conclusion

This study indicates that nasal symptoms were caused by paper dust rather than printing ink in patients with vasomotor rhinitis while reading newspapers.

References

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