Ethmoid Carcinoma Link to Wood Dust Exposure Found

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SAN FRANCISCO — Intestinal-type adenocarcinoma of the ethmoid sinus appears to be strongly related to long-term occupational exposure to wood dust or leather dust, Dr. Stefano Riccio reported at the Seventh International Conference on Head and Neck Cancer.

In a case series involving 706 patients with malignant tumors of the paranasal sinuses, 92.2% of the patients with histologically confirmed adenocarcinoma of the ethmoid sinus acknowledged substantial exposure to one of these dusts, said Dr. Riccio of the National Cancer Institute of Milan.

Forty-five percent of the patients in the ethmoid group reported occupational exposure to wood or leather dust, compared with just 1.3% of the maxillary group.

Most patients had been exposed to organic dusts for 25-58 years in their jobs as woodworkers or shoemakers. But 17 patients reported only early and relatively limited exposure to organic dusts: from 4 to 18 years followed by 28-46 years before the appearance of disease.

In patients with nasal obstruction or small or occasional epistaxis, physicians should determine whether the patient had been exposed to any oncogenic agents in the past, Dr. Riccio recommended at the conference, which was sponsored by the American Head and Neck Society. If such exposure can be confirmed, adenocarcinoma of the ethmoid sinus should be part of the differential diagnosis.

Dr. Riccio pointed out that epidemiologists first noticed an association between wood dust and nasal cancer in 1965. But epidemiological studies rarely make anatomical distinctions among the paranasal sinuses.

On the other hand, physicians are aware that intestinal-type adenocarcinoma is peculiar to the ethmoid sinus. For the most part, however, they are unaware of the epidemiological connection with occupational exposure.

All patients in the case series were treated between 1987 and 2007 at the National Cancer Institute of Milan. The cancer originated in the ethmoid sinus 57% of the time and in the maxillary sinus 43% of the time.

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Intestinal-type adenocarcinoma was the predominant histologic type in the ethmoid group, and was seen in 44% of those patients.

In comparison, squamous cell carcinoma was the most common histologic type in the maxillary group, and was seen in 35% of those patients.

In his review of the literature, Dr. Riccio found that the rate of adenocarcinoma among patients with malignant ethmoid tumors appears to be much higher in Europe than in North America. In five European case series, the rate ranged from 27% to 74%, with the lowest rate in the United Kingdom. In five North American case series, the rate ranged from 6% to 17%.

Dr. Riccio suggested the three possible explanations for this discrepancy. First, while the commonly accepted danger threshold for wood dust in Europe is 5 mg/m^3, that level is routinely exceeded in European furniture factories. The American Conference of Governmental Industrial Hygienists recommends a limit of 1 mg/m^3. Second, hardwoods are more dangerous than soft woods, and hardwoods are more widespread in Europe. Finally, Dr. Riccio hypothesized that safety measures such as masks and aspiration devices are more common in North America.

Dr. Riccio stated that he had no conflicts of interest related to his presentation. ■

DATA WATCH

Top Recommended Sunscreen Brands

Notes: 1,045 surveys were completed at the 2008 AAD annual meeting. The figures represent the number of appearances among respondents' top three recommendations.
Source: Coolibar

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