Radiation induced tumours of the head and neck


In order to study the induction of malignancy in normal tissues due to ionizing radiation, we reviewed the files of 2006 patients with a tumour of the head and neck treated at the Netherlands Cancer Institute (Antoni van Leeuwenhoek Ziekenhuis), Amsterdam, from 1977 to 1993, and checked if these patients were previously irradiated. Patients with a thyroid carcinoma or skin cancer were excluded from the study, since it is generally known that previous radiation is a risk factor in these tumours. Nineteen patients were found to have a malignancy within a previous irradiated area (0.95%). The mean interval between the radiation and the diagnosis of the head and neck tumour was 36.5 years. There were six soft tissue sarcomas, nine squamous cell carcinomas and four salivary gland tumours. Fifteen patients were operated upon whereas four received palliative treatment. The median survival of the total group was 7.5 years.

Principal component analysis in voice disorders

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In order to define possible basic parameters or categories in the pathophysiology of voice disorders, a principal component analysis was performed with the data collected from a sample of 114 dysphonic patients. The measurements concern morphological (extent of anatomical changes), aerodynamic (mean phonation flow), acoustic (high-frequency noise, aperiodicity, harmonic emergence in formant zone of /a/, cepstrum data) and perceptual parameters (grade of vocal deviancy; breathiness; roughness). Two principal components account for 68% of the total variance: the first one is mainly related to the extent of the anatomical changes, irregular glottic pulses and perceived roughness. The second one correlates with enhanced phonation flow, high frequency noise, and perceived breathiness. Overall voice quality, cepstrum measurements and harmonic emergence in formant zone of /a/ significantly correlate with both main factors. For clinical purposes it seems relevant to select for each principal component the most representative measurement.

A gene for hereditary non-chromaffin paragangliomas, a disorder subject to genomic imprinting, maps at 11q13.1

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Autosomal dominant inherited non-chromaffin paragangliomas (glomus tumours; population frequency 1/30 000) are slow growing tumours usually located in the head and neck. Because of genomic imprinting only children from male disease gene carriers develop tumours. In separate families linkage has been found with markers from different regions of chromosome 11q: 11q13 and 11q23, suggesting genetic heterogeneity. By extended analysis of one family we have assigned the disease gene to 11q13.1 between D11S956 and PYGM. These results can now be used to offer reliable DNA diagnostics. The exclusion of the relevant interval in another family proves the existence of genetic heterogeneity. An indication for linkage (Z = +2.5) was obtained with markers from 11q23. Apparently, there are two genes on 11q, which can predispose to glomus tumours and which both seem to be subject to genomic imprinting.

Sarcoidosis in the upper respiratory tract

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Sarcoidosis is relatively rare in the upper respiratory tract. It can be found both as a solitary lesion and as part of a more generalised disease. A series of 12 patients with granulomatous lesions in the nasal mucosa due to sarcoidosis is described. One of these 12 patients showed signs of laryngeal stridor and a second patient consulted her doctor because of lymph nodes in the neck. In six patients nasal symptoms preceded all other manifestations of sarcoidosis. In four it was only the biopsies of the nasal mucosa which demonstrated the histological picture of sarcoidosis. Blind biopsies from the nasal mucosa proved unsuccessful; nasendoscopically guided biopsies only could demonstrate the disease. The effects of systemic and local therapy were assessed in this series. The aetiology of sarcoidosis is still unknown. There exists a possible link with infections by atypical mycobacteria, which will need further investigation.

The endoscopic diagnosis of nasal sarcoidosis

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The characteristic picture of nasal sarcoidosis is caused by the formation of granulomas in the submucosal layers, giving rise to small, well-defined elevations of the nasal mucosa. Unlike such granulomatous diseases as (nasal) tuberculosis, Wegener's granulomatous and fungus infections, these sarcoidosis granulomas appeared not to flow together. In some patients suffering from prolonged nasal sarcoidosis a tendency towards web-formation was seen. These webs can narrow the nasal lumen considerably as well as block the paranasal sinus ostia, which can lead to mucocoele-like deformations of these sinuses. Initially nasal sarcoidosis causes an impaired nasal patency, but in later stages of the disease a marked atrophy of the nasal mucosa can be seen (as is the case with nasal tuberculosis and Wegener's). Nasal surgery designed to improve the nasal airway is strongly contraindicated with nasal sarcoidosis.