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Nasopharynx carcinoma

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Nasopharyngeal carcinoma (NPC) is a tumour of epidermoid origin and accounts for 90% of the malignant nasopharyngeal tumours. They are divided into two distinct clinico-histologic entities: epidermoid carcinoma and undifferentiated carcinoma of the nasopharyngeal type (UCNT). The latter has the greatest prevalence world-wide.

UCNT differs from other epidermoid carcinomas of the upper aerodigestive tract due to its histologic features, epidemiological factors that are unrelated to alcohol and tobacco abuse and its direct relation with the Epstein Barr Virus (EBV). It is endemic in certain regions of the world (high prevalence in South East Asia, average prevalence in North Africa) and is due to multiple etiological factors: genetic, viral and environmental. The high rate of distant metastases accounts in part for the treatment failures observed despite the marked radiosensitivity these lesions exhibit and the high local control rates. In patients presenting locally advanced tumours, cisplatin-based chemotherapy combined with radiotherapy has yielded beter disease-free survival rates in recent randomised trials. Recent advances in molecular biology have been beneficial to study of the pathogenesis of NPC and prognostic factors because of its close association with EBV.

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Current state of preventive vaccinations

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Infectious diseases are the major cause of the high mortality in developing countries especially among children. In such areas 15% of all infants do not reach the age of 15 years whereas in Western countries about 1% of children die before this age. Many infectious diseases are endemic and they often brake out as a consequence of economic deprivation or climatic factors. Pandemic infections, on the other hand, are often sexually transmitted or enter by the respiratory route and are being spread worldwide by the huge amount of international travel.

In developed countries most of the available vaccines have been used for several decades. In fact since their introduction the incidence of many communicable diseases has dropped markedly. In 1974 the WHO has introduced for Third World countries the expanded program on immunization (EPI) against infections occurring mainly in young children, i.e. diphtheria, measles, pertussis, tuberculosis, poliomyelitis and hepatitis B.

Consequently executed vaccination programs proved to be highly successful thus it is mandatory to improve existing vaccines and to develop strategies against "old" communicable diseases such as malaria but also against more recently emerging infections in humans and against persistent infections which may lead to certain types of cancer (e.g. human papillomaviruses inducing cervical cancer). In the age of recombinant DNA technology safe and effective vaccines can be designed given a profound understanding of the infectious agent and the pathogenesis as well as the host's immune response.