

## RESEARCH DIGEST

### **The role of MDM2 in the proliferative activity of ameloblastoma**

*Sandra F, Nakamura N, Kanematsu T, Hirata M, and Ohishi M*

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Ameloblastoma is a unique tumor in the oral and maxillofacial region with various levels of proliferative activity in each type. p53 is most commonly found to be mutated in human cancer and sometimes is overexpressed also in other lesions, such as ameloblastoma. Murine Double Minute 2 (MDM2) is able to physically associate with the p53 tumor suppressor and therefore block the growth suppressive functions of p53. In the present study, immunohistochemis-linked immunosorbent assay for p53 MDM2 was overexpressed in showed different numbers of MDM2 classification and cytological pattern blastoma, which has a high proliferative activity. The authors suggested that MDM2 protein caused the high proliferative activity of ameloblastoma, especially in basal cell ameloblastoma.

**MDM2 protein causes high proliferative activity in basal cell ameloblastoma**

try, western blotting and enzyme-mutant selective test were done. ameloblastoma and the results labeling index based on both WHO of outer layer cells. Basal ameloblastoma, had the highest

### **Oral cancer in southern India: the influence of smoking, drinking, paan-chewing and oral hygiene**

*Balaram P, Sridhar H, Rajkumar T, Vaccarella S, Herrero R, Nandakumar A, Ravichandran K, Ramdas K, Sankaranarayanan R, Gajalakshmi V, Munoz N, Franceschi S.*

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Between 1996 and 1999 the authors carried out a case-control study in 3 areas in Southern India (Bangalore, Madras and Trivandrum) including 591 incident cases of cancer of the oral cavity (282 women) and 582 hospital controls (290 women), frequency-matched with cases by age and gender. Odds ratios (ORs) and 95% confidence intervals (CIs) were obtained from unconditional multiple logistic regressions and adjusted for age, gender, center, education, chewing habit and (men only) smoking and drinking habits. Low educational attainment, manual worker and various indicators associated with significantly increased risk (OR 4.4) was found in men for smoking and alcohol drinking. The OR for alcohol drinking was more elevated (OR 24-76) than among men without tobacco chewing. A similar OR was found among chewers (OR 4.6 in women) and without tobacco chewing (OR 4.2 in men). Among men, 35% of oral cancer is attributable to the combination of smoking and alcohol drinking and 49% to pan-tobacco chewing. Among women, chewing and poor oral hygiene explained 95% of oral cancer.

**Persons with low education, poor oral hygiene, smoking, drinking and paan chewing habits at a greater risk of getting oral cancer**

tors of poor oral hygiene were at risk. An OR of 2.5 (95% CI 1.4-4.4) was found in men for smoking and alcohol drinking. The OR for alcohol drinking was more elevated among women (OR 24; 95% CI 3.4-7.8). A similar OR was found among men (OR 6.1 in men and 4.2 in women) and without tobacco

### **Effect of local hyperthermia on metastases in oral squamous cell carcinoma**

*Nagashima K, Takagi R, and Hoshina H*

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In this experimental study, hamsters with oral squamous cell carcinoma (O-1N), which has a high potential for lymph node metastasis, received treatment with local hyperthermia. The effect of hyperthermia on regional lymph node metastases was examined pathologically. O-1N was heated twice, each session

consisting of radiofrequency capacitive heating (13.56 MHz) for 40 min at 43°C. Cervical lymph nodes were excised 14, 17, 21, and 28 days after heating and were examined histologically. Hamsters in the sham and control groups were killed and examined in a same manner. The incidence was significantly lower in the hyperthermia group (36.4%) than in the sham (68.5%) and control (65.0%) groups (both  $P=0.02$ ). The patterns of lymph node metastasis were more advanced than that in the hyperthermia group. The incidence of lymph node metastasis was very low (7.7%) in hamsters with no evidence of tumour after hyperthermia. On multivariate analysis, hyperthermia correlated with inhibition of cervical lymph node metastasis ( $P=0.02$ ). Our findings suggest that local hyperthermia inhibits lymph node metastasis when the primary tumour responds histologically to treatment.

### **Hyperthermia inhibits cervical lymph node metastasis**

on the same days and specimens

### **EBV and multiple sclerosis: A prospective case-control study**

*Alberto Ascherio et al*

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Alberto Ascherio, MD, DrPH, of the Harvard School of Public Health, Boston, Mass, and colleagues conducted a prospective case-control study to address the possible role of Epstein-Barr virus (EBV) in the development of Multiple Sclerosis (MS). Among women enrolled in 2 large ongoing studies, the Nurses' Health Study (NHS) and the Nurses' Health Study II (NHS II), who gave blood samples in 1989-1990 and in 1996-1999, respectively, and who were evaluated through 1999, the authors studied 144 women with definite or probable MS and 288 age-matched healthy controls. Serum antibody levels were measured to determine if elevation in anti-EBV antibodies or antibodies to fight cytomegalovirus (CMV, a herpes-type virus) precede the occurrence of MS.

Epidemiological studies suggest an association between infection with EBV and risk of MS. The authors found evidence of anti-EBV antibody elevations before the onset of MS. "We documented 18 cases of MS with blood collected before disease onset. Compared with their matched controls, these women had higher serum geometric mean titers [the average concentration calculated on a logarithmic scale] of antibodies to EBV but not CMV," they report. Elevations were observed for antibodies against antigens expressed during replication of the virus as well as in latency. "The strongest association was found with antibodies to EBNA-2 [a nuclear antigen]; a 4-fold difference in titers [concentration] of antibodies to this antigen was associated with a 4-fold increase in risk of MS," the authors write. "Significant but generally weaker elevations in anti-EBV antibodies were also found in analyses of 126 cases of MS with blood collected after disease onset and their matched controls," they report. "In conclusion, our results, in conjunction with those of case-control studies, offer evidence that EBV infection may increase the risk of MS. Because develop MS, other co-factors are predisposition and, perhaps, age at other microbes," the authors suggest little effect on the number of infected individuals infected with EBV required. These may include genetic primary infection or infection with gest. "Available antiviral drugs have B lymphocytes and may thus be ineffective in MS treatment. However, a better understanding of the mechanisms that relate EBV to MS may also lead to novel therapeutic approaches," they conclude.

### **EBV associated with increased risk of multiple sclerosis**

few individuals infected with EBV