

lines, i.e. cells with an already altered phenotype. Whether these cells may be termed initiated and are thus the appropriate targets for promotion is not clear. Following recent observations phorbol esters interfere with intercellular communication processes and thus may well act not only on initiated cells but also on their normal surrounding cells, thus rendering the tissue permissive for the expression of the transformed phenotype and for the development of the initiated cells to visible tumors.

#### BLOOM'S SYNDROME : A DEFICIENCY IN THE DETOXIFICATION OF ACTIVE OXYGEN SPECIES ?

P. Cerutti, I. Emerit\*, M. Hirschi and I. Zbinden, Department of Carcinogenesis, Swiss Institute for Experimental Cancer Research, Ch. des Boveresses, CH-1066 Epalinges s/Lausanne,, \*Institut Biomédical des Cordeliers, Cytogénétique Expérimentale, 15-21 rue de l'Ecole de Médecine, F-75006 Paris

Bloom's Syndrome (BS) is an autosomal recessive disease which is characterized clinically by growth retardation, skin sensitivity to sunlight, immunodeficiency and increased susceptibility for development of cancer. Increased frequencies of spontaneous chromosomal aberrations and sister chromatid exchanges have been observed on the cellular level. In studies of the near-ultraviolet photobiology of skin fibroblasts of BS patients we have investigated the survival of the colony forming ability and the formation of DNA single strand breaks following exposure to monochromatic light at 313 nm. Near-ultraviolet represents a major portion of the solar radiation which reaches the surface of the earth. Abnormal survival curves were observed in 6 of 7 BS strains, 4 strains being hypersensitive to the lethal action of 313 nm light. In 6 of 8 strains 313 nm light induced excessive DNA fragmentation. These abnormalities in the response of cultured BS fibroblasts to near-ultraviolet light may be reflection *in vitro* of the skin sensitivity of BS patients to sunlight. Further insight into the pathology of BS was obtained in cytogenetic studies. A low molecular weight component was identified in concentrated media from 6 BS fibroblast strains which induces chromosomal aberrations in phytohemagglutinin stimulated lymphocytes from normal donors. The activity of this clastogenic factor could be decreased substantially by the addition of bovine Cu-Zn superoxide dismutase. The clastogenic factor also induced sister chromatid exchanges in normal lymphocytes, albeit with low efficiency. In analogy to collagen diseases such as systemic lupus erythematosus, Crohn's disease and periarteritis nodosa it is speculated that BS fibroblasts are deficient in the detoxification of active oxygen species ( $O_2^-$ ,  $OH^\cdot$ ). On the basis of our photobiological and cytogenetic results a new hypothesis for the pathology of BS will be discussed.

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#### PROGNOSTIC FACTORS IN THE TREATMENT OF METASTATIC GERM CELL CANCER

Roland W. Sonntag, Institute for Medical Oncology, University of Bern, Switzerland

91 patients with metastatic germ cell cancer were classified as having either advanced disease (AD) or minimal disease (MD). Criteria for staging are given. All patients were treated similarly according to protocol Ol/76 of the Swiss Group for Clinical Cancer Research (SAKK). Complete remission (CR) rates (95 % vs 35 %) and survival (84 % vs 33 %) were significantly better ( $p < 0.001$ ) for the MD group than for the AD group. Disease sites did not influence the therapy results. Patients with MD had higher CR rates ( $p = 0.003$  to  $0.009$ ) than AD patients at all sites (lung, abdomen or combined sites). The incidence of MD was higher in patients with embryonal cell carcinoma than in all other histology groups (54 % vs 31 %,  $p = 0.026$ ). This was reflected in a higher CR rate (77 %) for the embryonal cell carcinoma patients than in the other histological groups (46 %,  $p = 0.003$ ). The CR rate for patients with MD was the same in all histology groups (89 % to 100 %). In AD the 50 % CR rate for embryonal cell carcinoma patients versus the 28 % rate for other patients showed a definite trend but did not reach statistical significance. The dosages of chemotherapy given had no apparent effect upon CR rates. Relaps rates were significantly affected by dosage reduction, and in AD patients, by the number of chemotherapy cycles given.

#### LONG TERM SURVIVORS WITH SMALL CELL CARCINOMA OF THE LUNG

R. Joss, P. Alberto, Divisions of Medical Oncology, Inselspital, Berne, and Hôpital Cantonal, Geneva for the Swiss Group for Clinical Cancer Research (SAKK)

Several authors have recently reported long term, disease-free survival in patients with small cell carcinoma of the lung (SCCL) after aggressive initial treatment. In an attempt to identify long term, potentially cured survivors with SCCL in Switzerland a questionnaire was sent to all medical oncology centers throughout the country. 14 patients with SCCL were reported achieving disease-free survival for over 24 months after initial therapy. Median age was 61 (39 - 80), median performance status 0 (0 - 2), 2 were females and 12 were males. 13 patients were classified as limited