

cases in rural Kuopio. Menarche occurred earlier in both the NY cases and controls, but menarcheal age of the cases in the 2 locations did not differ from that of the corresponding control groups. Menopausal age was similar in all 4 groups. More NY women were nulliparous, with no difference between cases and controls; in Kuopio more BC patients were nulliparous ($p < 0.05$). Age at first pregnancy occurred later in the cases than controls in both locations. Breast feeding was practiced more frequently and for longer in Kuopio, but fewer cases than controls had breast fed ($p < 0.001$). There were no differences in body weight between the 4 groups. The small differences in reproductive risk factors appear insufficient to explain the higher BC risk in the United States, which may be due to modifying dietary factors such as fiber intake.

ANALGESIC ACTIVITY OF CALCITONIN IN PATIENTS WITH PAINFUL OSTEOLYTIC METASTASES OF BREAST CANCER

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The analgesic effect of salmon calcitonin was tested over 28 days in a double-blind clinical randomized controlled trial in 40 female patients with painful osteolytic metastases. The effect of calcitonin was monitored with respect to daily analgesic consumption, duration of pain, patients' functional capacity, patients' own assessment of pain, and assessment of efficacy by the investigator. Statistically significant differences were established in terms of reduced analgesic consumption, shorter duration of pain and the patients' subjective assessment of pain duration and intensity. The objective assessment of the analgesic effect of calcitonin by the investigator showed the drug to be extremely useful in 3 patients and moderately useful in 11 patients. No changes were observed in serum calcium levels; there were likewise no skeleton changes as established by X-rays and bone scintiscans before and at the end of treatment. The trial has shown calcitonin to produce a pronounced analgesic effect in breast cancer patients with painful osteolytic metastases.

TWO SUB-SETS OF SIGNET RING CELL CARCINOMA IN RAT COLON

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A dimethylhydrazine-induced colon carcinoma in rat, composed entirely of dissociated locally invasive signet ring cells (SRC) or their precursor cells, has been investigated. The single ultrastructural difference from the normal epithelium is absence of junctional complexes, apparently allowing both cellular mobility from the epithelial sheet and loss of polarity with failure to secrete. Such a uniform tumour demonstrates an effective neoplastic process, with mobile precursor cells maturing to SRC.

In contrast a typical invasive mixed adenocarcinoma with SRC has tight junctions preserved in the loose glandular structure, loss of polarity, and retained secretion in SRC.

This comparison illustrates two sub-sets of SRC carcinoma, and intra-cytoplasmic lumens may provide a third. Their differential prognosis awaits a properly targetted survey. The absent junction in SRC may confer the extra invasiveness.

SMALL CELL LUNG CARCINOMA (SCLC): A SYSTEMIC DISEASE

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As a complement to the cellular hypothesis of SCLC, we propose a neuroendocrine or systemic hypothesis.

ASSUMPTION: The toxins which play a role in lung carcinomas induce central neuroendocrine lesions leading to a deficit in peptide hormone production that result in bronchial hyperplasias and dysplasias.

HYPOTHESIS: As a consequence of this deficit, the stimuli which normally control the production of peptide hormones are increased. The next target cell for these stimulating factors are bronchial cells at the level of toxin induced structural derangements. Those bronchial cells which are programmed to respond to neuroendocrine signals, regardless of their embryological origins (Kulchitsky cells) multiply and produce compensatory peptide hormones. However, since these cells in adult hyperplastic or dysplastic bronchi are not equipped to manufacture perfectly active hormones, they are not able to provide the feedback control of stimulating factor production. The neuroendocrine systemic hypothesis has therapeutic corollaries which probably provide the most accessible framework in which to devise experiments for testing the hypothesis.