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ROUTINE HUMAN CHROMOSOME STUDIES CAN DETECT EARLY ONSET OF MALIGNANCY AND SOME OTHER EPIGENETIC MECHANISMS AMONG PROSPECTIVE FAMILIES

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Since the time of Boveri, this is well known that metaphases exhibiting translocations and acrocentric associations are definite chromosomal features serving as precursors to installation of chromosomal mutagenesis, finally leading to malignancy. Our work since 1973 has been suggesting the positive affiliation of chromatin dots which emanate from certain chromosomes. We have been obtaining clear evidences for such epigenetic mechanisms which are randomly operative and are direct evidences of the chromosome-dynamics; an organelle of immense molecular mechanisms loaded with evolutionary potentialities. Our chromosomes are copies of that chromatin material packed, and being copied for millions and millions of years. Follow up studies on various malignancies recorded presence of these marker dots in all of them and intriguingly only selective chromosomes were involved (chromosomes 1, 4, 5, 9, 11, 16) in emanating marker dots. Studies on genotoxic assessments by lymphocyte cultures on 600 persons exposed to MIC gas and various control subjects and family members in Bhopal had also established that chromosomal damages have been installed among seriously exposed persons. Marker dots measuring 2-to-3 micron emanate from different chromosome in several metaphases slides of cancer patients. Obviously, it appears that the molecular attenuation of chromatin structures movable from chromosomes is related with triggering neoplastic transformations. Recently larger size chromatin thread has been observed in some females showing recurrent abortions and giving still birth. We have confirmed by G, and C banding as well as by Feulgen's staining and fluorescence procedures that these are chromatin bodies found in patients of cancers (bone, breast, lung and colon in particular) and sometimes in a few of their family members. Obviously the molecular attenuation of chromatin structures movable from chromosomes is related with triggering neoplastic transformations; may be an undiscovered epigenetic mechanism. Relevant detailed molecular mechanism need to be unfolded?.

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