Cancer Research

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November

Hope for Hodgkin's Disease

In his Clowes Memorial Lecture, Kaplan (Stanford University, Stanford, California) succinctly reviews one of the triumphs of contemporary oncology, a triumph to which he personally made signal contributions. This is the revision of Hodgkin's disease from an inexorably fatal affliction to one with a 10-year salvage rate of 60 percent. The changes occurred during the past two decades, and represent a melding of pathology, radiotherapy and chemotherapy in a truly multidisciplinary attack on a specific problem. Hodgkin's disease is a neoplasm of macrophage derivation, which arises locally and spreads through the lymphoid system. Its cause remains unknown; fertile approaches to etiology include virology and immunology. The final goals of prevention and cures approaching totality still lie ahead. But to those who doubt the research investment in the fight against cancer, and those who refuse to recognize that we are advancing, let them read Kaplan's lecture.

Breast Cancer

Particles in Milk?

The virologic approach to understanding cancer in man remains as viable as ever, despite the present impasse and resitiveness that is evident in the field. It is true that findings on chickens, mice and cats are not as easily transferable to man as we would wish. But, as an example, Furmanski et al. (Michigan Cancer Foundation, Detroit, Michigan) continue the identification and isolation of the oncornavirus-like particles in human milk. These particles are morphologically similar to the mouse mammary tumor virus. possess reverse transcriptase activity, which utilizes an endogenous 70 S RNA as template, and have a major core protein electrophoretically identical to that of the mouse virus. Whether these particles are related to human breast cancer remains unknown, of course. We lack bioassay methods that would close the chain, and in absence of shortcuts, must await data relating the presence of particles in the milk to the eventual development of cancer. The time spans involved in such an inquiry are formidable, but should not be paralyzingly discouraging.

Success With Continuous Combination Therapy

In the meanwhile, the direct therapeutic approach to breast cancer is also advancing slowly but steadily. In biometrically acceptable studies, Smalley et al. (Temple University School of Medicine, Philadelphia, Pennsylvania), writing for the Southeastern Cancer Study Group, compared the effects of combination versus sequential five-drug chemotherapy in metastatic carcinoma...
of the breast. Continuous combination therapy (methotrexate, 5-fluorouracil, vincristine, cyclophosphamide and prednisone) produced responses in 46 percent, versus 18 percent on sequential single agent therapy, and the median survival for the combination group was double that for patients on sequential therapy. One-fourth of patients had prolonged survival of over 75 weeks, regardless of therapy. It would seem that a relevant question is whether all five drugs are essential in the regimen. A relevant caveat is that the findings should not be applied uncritically to adjuvant therapy.

**December**

**Animal Studies**

**Inbred Mice**

For an international committee, Staats (Jackson Laboratory, Bar Harbor, Maine) presents the sixth listing of the *Standardized Nomenclature for Inbred Strains of Mice*. This is one of the most valuable, authoritative and current animal resources available to biomedical investigators. The multiplicity of sublines, fostered and otherwise manipulated, makes it mandatory that correct identification and derivation of animals be included in published reports. For example, CBA/J carries the gene for retinal degeneration whereas CBA/Ca does not. The two differ in radiosensitivity and in at least five polymorphic loci; they are not histocompatible. The full value of inbred mice still remains to be exploited, and they are a major contribution to science.

**Salmon With Thyroid Nodules**

As a counterpoint to the carefully cultivated inbred mouse, Sonstegard and Leatherland (University of Guelph, Ontario, Canada) studied a feral animal population, the Coho salmon of Lake Ontario, for seasonal and environmental changes in the thyroid. Thyroid nodules rose from five percent in fish collected in August to 24 percent of fish collected in October. The goiters were similar to those that were induced with thiourea and thiouracil.

Although the condition may be linked to iodide deficiency, it may also reflect chemical pollution of the waters. Epidemiology should be valuable for monitoring potential carcinogenic environments, as well as for other information we lack, and as a field of study needs expansion and greater support.

**Conference Proceedings**

The Second Part of the November issue publishes the proceedings of the June 1976 conference on "Regulation of Gene Expression in Development and Neoplasia." The material updates the intriguing research approaches to cancer as a developmental disease.