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cancer hazard. But these were discounted in favor of clearly specious findings in an attempt to assuage the fears that unfounded publicity had aroused in the American people.

In the field of azo dye carcinogenesis, a considerable number of studies on structure-activity correlation have been performed by many scientists and, in particular, in the laboratory of the Millers at the University of Wisconsin. The general conclusion was drawn that substitution of polar groups or of solubilizing groups like hydroxy, carboxy, and especially sulfonate, uniformly decreased, and in the latter instance abolished, the carcinogenic effect. Pure Red Dye #2 has the structure of an azo dye with sulfonic acid substitution on the aryl rings on both sides of the azo bond. On the basis of what is known in the field, it seems unlikely, therefore, that this polar, water-soluble azo dye or its metabolites should be carcinogenic. This was also the conclusion of the extensive FDA studies performed in 1954-1956.

However, the FDA went to the trouble of performing one more test series. For various reasons, this series was inadequately supervised and poorly conducted. Yet, the data generated were evaluated mathematically and the conclusion was drawn that excess cancers were seen in female animals. These cancers were not at specific target sites. They were not in organs affected by known carcinogenic azo dyes for which many structures have been examined. They were, instead, in organs where neoplasms are often seen in aged animals. Given such random distribution of cancers, one is entitled to ask: Why does it affect only female rats and not males? In fact, males treated with Red #2 had a lower disease incidence than untreated males. Yet, all of this information taken together was used by administrative and legislative authorities, and boards of scientists and physicians, to rule that insufficient evidence existed to declare Red Dye #2 a safe dye. It was, therefore, banned. The public must have been relieved that government authorities had protected it from a grave risk of cancer!

Dr. F. Ingelfinger, the editor-emeritus of the *New England Journal of Medicine*, in an editorial on the "cancerophobia" being induced in the public, indicated that too many claims for cancer hazards, which eventually are found wanting, immunize and make the public resistant to what might be valid, proper and real cancer hazards. Thus, the efforts to control cancer, which are the concern of all in the field of cancer and medical research, are rendered ineffective. The public will ignore any statements if they come too often and do not discriminate between claims based on sound evidence and those which are flimsy.

It is important that when the public is alerted, the alert have the backing of authoritative, reliable documentation. It is important that when scientists go to Federal or State agencies in order to modify the environment through regulatory and legislative action, that their evidence be strong and irrefutable. It is important that interpretation of the existing literature rest on a sound foundation and not represent frivolous imagination. It is important to construct protocols for new studies, which consume a good fraction of our limited resources for medical research, so that such studies, if successful and properly conducted, will actually contribute knowledge which can be used to reduce human cancer risk. Finally, it is important that we emphasize and deliberately foster public action on those cancer risks which are already well defined, such as those seen in occupational settings and, most urgently, those due to our lifestyle, such as the smoking of cigarettes, the consumption of diets high in fat and low in fiber, and other conditions which are epidemiologically and experimentally fully documented as real cancer hazards.

Let us not waste time and effort, and delude the public and ourselves through irrelevant busybody actions. Let us, rather, concentrate on what is important to all mankind—the effective prevention and control of cancer. ©

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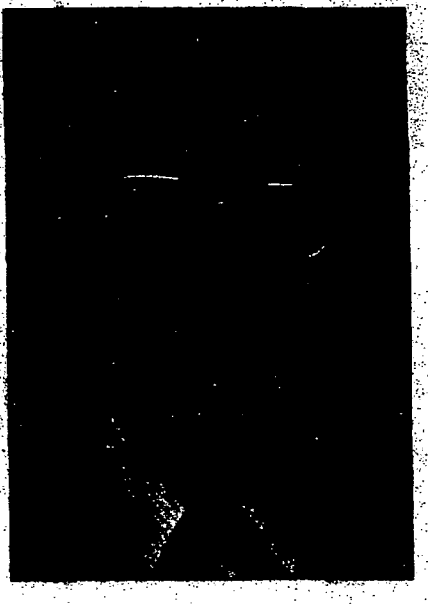
EDITORIAL

A Personal Tribute to Robert M. Taylor, M.D.



When Robert Mackay Taylor began his long and distinguished career in cancer research and treatment, the prognosis for patients with cancer was poor. Recently, in a special lecture, he recalled his first year of graduate medical training in the cancer ward at the Toronto General Hospital: "At that time the surgeon had no antibiotics with which to control infections... he had no blood bank on which he could call for massive support when carrying out radical procedures." In Dr. Taylor's early experience, physicians' efforts were directed primarily to alleviating pain and controlling infection and bleeding.

Since that time, there has been remarkable progress in the understanding and management of cancer. Improved survival statistics of certain cancers and the increasing sophistication of diagnostic and treatment capabilities are gratifying indeed to a man who has focussed his professional energies on the prevention and early detection of cancer, as well as on management and rehabilitation. Dr. Taylor has contributed enormously to these developments through his role in the Canadian Cancer Society and his participation in international cancer programs.

Last September Dr. Taylor retired as Executive Vice President of the Canadian Cancer Society and Executive Director of the National Cancer Institute of Canada, a dual post he had held since 1955. During his tenure, these two related organizations grew stronger both financially and philosophically, and the scope of their research, education and service activities expanded considerably.

"It is misleading to hold up mortality as the only criterion for determining success or failure of the effort directed against cancer."

Dr. Taylor can be justifiably proud of the growth of the Canadian Cancer Society, and of its sponsored research and treatment programs. He can speak with knowledge and confidence of the quality of his Canadian colleagues' work, for he has a long and thorough familiarity with

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