BOOK REVIEWS

Novel Approaches to Cancer Chemotherapy by Prasad S. Sunkara, (Published by Academic Press Inc., Publishers, Florida 32887, USA) 1984, pp. xiv + 383, Price: $ 65-00, £ 50-00.

Cancer therapy and chemotherapy in particular is entering a crucial period. Notwithstanding the impressive gains made during the last 20 years in the therapy of lympho-proliferative neoplasms and some solid tumors such as choriocarcinoma, Wilms tumor and testicular cancer, treatment of most solid malignant tumor and their metastasis remains depressingly unsuccessful. The more common human malignancies arising in breast, lung, colon and the prostate continue to resist therapy in the majority of the patients despite an assault by evergrowing combination of drugs. The merits of current approaches to cancer chemotherapy are being challenged from several fronts.

It is clear that a selective therapeutic attack on cancer cells is possible only when the basic differences between cancer and normal cells are well understood. In recent years a number of biological and biochemical differences have been discovered. The major aim of this book is to collate in one source, new and emerging theories in tumor biology and to discuss their potential usefulness in developing new therapeutic approaches to cancer therapy.

Each chapter stresses a unique property of cancer cell and describes in detail how a novel therapeutic approach can be developed. The antitumor and immunoregulatory properties of interferons, their positive effects on certain types of cancer and the number of novel approaches by which they might be used to enhance the effectiveness of antitumor therapies (chapter 1). The production and use of monoclonal antibodies to tumor specific or tumor associated antigens for accurate diagnosis and staging as well as therapy (chapter 2). The ability to target drugs to specific cells has been one of the most sought-after goals in therapeutics. Current status of liposomes as a vehicle for drug delivery in cancer therapy; Liposome-encapsulated macrophage—activating agents for the treatment of disseminated cancer; the role of immunomodulator and/or immunostimulating agents like the naturally occurring peptide hormone—Tuftsin—in combating the development of neoplasms (chapters 5–7). Some of the newly identified biochemical and enzyme targets in cancer cells likely to help in cancer therapy (chapters 3 and 4) refer to the role of polyamines in rapid cell growth and transformation, the potential therapeutic use of specific inhibitors of polyamine biosynthesis and involvement of arachidonic acid metabolites in various aspects of malignancy.

Favourable effects induced by endocrine manipulations that shift cell biochemistry away from that characteristic of hormone dependence to autonomous growth is a radical conception. This has formed the basis for the treatment of prostatic cancer by 5α reductase inhibitor and of breast cancer by a new class of mechanism-based 'Suicide inhibitors' (chapters 8 and 9). Membrane defects common to a broad spectrum of tumors exist and can be therapeutically exploited (chapter 10). Lowering of sodium flux which is significantly elevated in all of the cancer cells from solid tumors could inhibit tumor cell growth. Encouraging result has been observed by Amiloride, a non steroidal diuretic. The use of such diuretics as inhibitor of tumor growth appears to represent an excitingly new but rational approach to the cancer chemotherapy field (chapter 11).

This volume is sure to stimulate biologists, biochemists, immunologists and molecular biologists to interact with one another to exploit the unique properties of cancer cells in order to develop new approaches to cancer therapy.

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Hydroxy flavones—Analytical Aspects by R. Satake, M. C. Mehra and M. Katyal, (Published by Khosla Publishing House, 57 U A Jawaharnagar, Delhi 110 007). 1983, pp. 111. Price: Rs. 50, $6.00

The above monograph presents a critical review of the analytical applications of the Hydroxy flavones in the estimation of heavy metals covering a period up to 1981. The review contains 286 references covering about 15 natural hydroxy flavones and 30 heavy metals, lanthanides, actinides and some anions. They include the photometric, fluorescent and luminiscent

spectral methods based upon the powerful bathochromic shift in the absorption spectra of the flavones caused by the formation of the flavone-metal-ligand complexes in solution. A large amount of pertinent data is provided in regard to their estimations, especially sensitivity, selectivity and interference. The monograph makes an eminently readable and useful reference book to analytical chemists.

In its content and discussion, this monograph closely follows a review article entitled " Analytical Reactions of Hydroxy flavones" by one of the authors, Dr M. Katyal, published in Talanta in 1977, **24**, 367. The literature in Talanta article is covered upto 1977 and hardly six references were added in the present monograph for the period 1978–81. Further the monograph follows the Talanta article so closely that the reader will come across several passages copied verbatim and even tables reproduced. In the monograph, however, several figures of the spectra of the flavone-metal complexes were included, but not found in the Talanta article. This could have been avoided, for the spectra do not necessarily add to the analytical data already covered otherwise.

One area in which relevant and useful discussion could have been taken up, is the structure representation of the flavone-metal-ligand complexes. Since alternate structures are possible for several complexes, it is necessary to provide adequate data in support of the structures proposed and adopted. Sufficient discussion in this context could have enhanced the value of this monograph several fold.

Finally, there are a few less accurate scientific expressions and repetitions. To quote some, the passage of 3 lines on p. 91 is duplicated on p. 97, while the figure on p. 9 does not represent the flavylium structure, but the ligand of the 3-hydroxy flavone. The terms like α:β unsaturated bonds (p. 13), split bond (p. 28) and mirror image of the absorption curve (p. 64) are confusing and inappropriate. Numerous other typographical and structural errors are also noticed throughout the book.

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NEWS

AUSTRALIAN BRAIN DRAIN INCREASING

. . . "According to a study of 1982 graduates prepared for the Council of Australian Post-Graduates Assns., almost 30% of scholars with doctoral degrees and about 15% of those with master's degrees went overseas for work because there were no jobs available in Australia. . . . The study found that research jobs had been disappearing in Australia because both the government and private industry had been spending less on research and development. . . . Graduate students are one of Australia's most valuable and, in present times, most needed resources,' [said Margaret Powles, the report's author]. 'During higher-degree studies, they perform an average of 40% of the original research in universities. In some areas, particularly in the fields of science and technology, many vital research programs would collapse entirely should graduate support be removed'. . . . More and more, she said, the country's research requirements are being placed on the universities, but the universities are not receiving the financial support they need to meet the job."

[(Geoffrey Maslen in *Chronicle of Higher Education* 16 Jan 85, p. 37-8) Reproduced with permission from Press Digest, *Current Contents*®, No. 11, March 18, 1985, p. 12. (Published by the Institute for Scientific Information®, Philadelphia, PA, USA.)]