香港中文大學 THE CHINESE UNIVERSITY OF HONG KONG

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## CUHK Advances in Breast Cancer Treatment and Research

The Chinese University of Hong Kong and the Sir Yue Kong Pao Cancer Centre at the Prince of Wales Hospital have joined in an international multi-centre study by the International Breast Cancer Study Group on High-dose Chemotherapy with Peripheral Blood Stem Cell Support - a novel treatment for breast cancer.

Breast cancer is the second commonest cancer and cause of cancer related deaths in Hong Kong women. In 1992 female breast cancer accounted for 7% of all newly diagnosed cases and 4% of all cancer deaths. (There were 1,138 newly diagnosed cases and 331 related deaths in 1992.) The median age at diagnosis was 56 and the age standardized incidence rate per 100,000 females was 34. (The estimated life-time risk was 1 in 28.) One in 100 women aged 40 to 80 is likely to have breast cancer.

Pre-menopausal and young post menopausal (age< 65) breast cancer patients with spread to more than five lymph nodes under the arm are at high risk for recurrence after surgical treatment. Recent studies suggest higher doses of chemotherapy may be a more effective treatment. However, higher doses of chemotherapy are toxic to the blood forming cells (stem cells) in the bone marrow. There are also a very low number of stem cells circulating in the peripheral blood. To protect the stem cells, a cell-separator is used to take blood from the patient, centrifuge it to separate the heavier red cells from the slightly less dense white cells, then remove some of the white cells (including stem cells) and return the rest of the blood to the patient in a continuous cycle. The stem cells are then stored frozen until needed. High-dose chemotherapy which damages the stem cells is given for a few days. The frozen stem cells are then thawed and given as a transfusion. These will circulate to the bone marrow where they grow normally and replace the damaged cells.

This study led by Dr Nicholas Wickham, Senior Lecturer, Department of Clinical Oncology, CUHK will compare standard therapy with high-dose therapy. The Prince of Wales Hospital's involvement in this study reflects the University's commitment to international cooperation in medicine, science and technology.

The University has also researched on the cause of breast cancer. A special team coordinated by Professor Calvin Pang, Department of Chemical Pathology, Professor Walter

W K King, Department of Surgery and Professor Philip Johnson, Department of Clinical Oncology is studying the role of Breast Cancer Gene Mutation (BRCA1) in Hong Kong women with sporadic, early onset or familial breast cancer. The study will provide clinicians a better understanding of the distribution of genetic mutations of the Breast Cancer Gene in the Chinese population and allow definitive early diagnosis at the genetic level of some selected patients in the near future. Using special laboratory procedures including special DNA primers, polymerase chain reaction and direct DNA sequencing, researchers studied the coding regions of the BRCA1 gene of 139 breast cancer tissues. Results showed that approximately 60% of the tumours had one or more mutations (polymorphism). This on-going study aims to identify carriers who are susceptible to the development of breast cancer. At the Prince of Wales Hospital, there is a special breast cancer clinic to screen women with strong family history for breast cancer and some of them will soon have their blood screened using the latest advances in DNA technology.

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A recent survey of 80 patients with a breast lump was conducted by Professor Walter W K King and his associates. The survey revealed that 48% of the women had a breast mass larger than 2cm. 44% of the women surveyed never carried out self breast examination and 30% had no knowledge of breast cancer. For women age 55 or above, nearly 60% had no knowledge of breast cancer. This survey suggested that it was very important to increase breast cancer awareness especially in the elderly so that patients with a palpable breast lump would seek early medical advice.

At the Sir Y K Pao Cancer Centre, comprehensive breast cancer treatment is delivered to over 200 breast cancer patients each year by a team of surgeons, oncologists, radiotherapists, haematologists, pathologists and radiologists.

At the Hong Kong International Breast Cancer Conference which will be held at the Prince of Wales Hospital, Hong Kong during 26 & 27 April 1997, breast cancer specialists from Hong Kong, China and overseas will report on the latest research findings and advances in the management of breast cancer.

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