



RESEARCH REPORT - MAY 2003

By Dr Jane McNeilage, National Australia Bank Ovarian Cancer Research Fellow

Research activities

The overall aim of the research program is focused on the development of a sensitive and specific screening test for the detection of ovarian cancer. Work to this end continues in the laboratory in two different areas; improvement of the currently available tests for ovarian cancer and examination of the genes involved in the development of ovarian cancer. Work by Associate Professor David Robertson continues on a more sensitive blood test for inhibin, which when combined with the existing blood test for Ca 125 (both are found in higher levels in the blood of individuals with ovarian cancer than in healthy women) increases detection of ovarian cancer. Whilst this is not the screening test for early disease that we are aiming for, it has increased the sensitivity and specificity of existing methods and so is a promising new development. Commercial development of this test is currently underway. Our second approach to developing a screening test for ovarian cancer has involved examining the genes that produce the changes that occur in the ovary leading to the development of ovarian cancer.

Our work has focused on identifying the genes that play a role in the process of cell death (apoptosis), some of which are unique to the different types of ovarian cancers and some of which are shared by all. We have now extended this work to looking at much larger numbers of genes utilising the Microarray machine that has been purchased by the Foundation as a result of a very generous donation by the retailer, Witchery. This machine allows us to examine many thousands of genes in our ovarian cancer samples. Work to date has focused on refining the technique but our aim is to use this complex analysis of the expression of many thousands of different genes to identify genes that are unique to ovarian cancer.

Clinical research activities

The Gynaecological Oncology Unit at Monash Medical Centre continues to participate in two clinical trials at present. The aim of the first of these trials, the SMART Study is to evaluate a new treatment that may improve the long-term survival of women with ovarian cancer. The study involves the injection of an antibody, HMFG1 or Theragyn, into the abdomen of women with ovarian cancer who have been treated both surgically and with chemotherapy, and who have no visible signs of disease. If suitable, the patient receives a single injection of the radioactive antibody into the abdomen. The theory is that the antibody will attach to any cancer cells that may still be present in the abdomen but not visible to the naked eye. The radioactive Yttrium, attached to the antibody, will destroy the remaining cancer cells. We have recruited 18 patients to the SMART study, a number that compares extremely favorably with other centres in Australia and overseas. Recruitment to this trial has now stopped.



The second trial, a direct extension of the first, the MIDAS Study, is designed to examine how the antibody is distributed after it is injected into the abdomen. The antibody in this study is labeled not with Yttrium but with a similar radioisotope, Indium. Again we are achieving a good level of recruitment to this study and continue to recruit suitable patients. We are also founding members of the Australian and New Zealand Gynaecological Oncology Group and will be involved in clinical trials conducted by the American Gynaecologic Oncology Group. The first trial we will participate in will be the GOG 182 trial involving the comparison of five different chemotherapy treatment regimes for ovarian cancer. The Annual Meeting of the Australian Society of Gynaecological Oncologists was held recently (April 24-27, 2003). Dr Jane McNeilage was the recipient of the Keith Free Memorial Prize for the best presentation by a Fellow.



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