



IMMUNOLOGICAL PARAMETERS AND THE USE OF IMMUNOTHERAPY  
IN OVARIAN CARCINOMA.

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## PREFACE

The work described in this Thesis is a continuation of that begun by Dr. L. Levin in the Williamson Laboratory, St. Bartholomew's Hospital, London. He and his co-workers showed that patients with ovarian cancer demonstrated lymphocyte responses to extracts of ovarian tumours, which were specific and related to the Stage of the disease. Subsequently, an Immunotherapy programme was initiated, which closely followed the protocol used by Dr. R. Powles, in the Acute Myeloid Leukaemia Trial, then being conducted at St. Bartholomew's Hospital.

This Thesis describes the results of that initial Trial, as well as a new properly controlled and randomized Trial being carried out in conjunction with the MRC Ovarian Cancer Chemotherapy Trial. The procedure is shown to be safe, possibly efficacious in prolonging life, and definitely worthy of further study. In vitro monitoring of patients shows that immunological parameters are boosted by immunotherapy with BCG and tumour cells, but its effects would not seem to be mediated through an increase in specific anti-tumour lymphocyte responses, but rather through a "boosting" of bone marrow, thereby allowing greater amounts of chemotherapy to be given.

The study of specific blastogenic responses to tumour extracts was not conclusive, and suggested that such responses were non-specific and unrelated to tumour load. Control subjects showed responses that were very significantly related to parity, and it was postulated that foetal sensitization of the mother's lymphocytes might explain the lower incidence of parous women with ovarian cancer, compared with those who are nulliparous.

The effects of chemotherapy on various immunological parameters were also studied, and led to rather paradoxical results. It was also suggested that although relapse patients had significantly decreased numbers of T-cells, as assessed by in vitro E-Rosetting, this did not represent a true decrease but the presence of serum factors

which prevented lymphocytes from binding to SRBC.

The study of in vitro serum effects was inconclusive but the measurement of immune complexes showed very significant relationships to the Stage of disease and presence of recurrence post-operatively. The measurement of ectopically produced trophoblast-specific hormones in ovarian cancer serum was also deemed to be of limited use.

The historical background to this work has been described in some length, but I think this is justified to give perspective to an area which is not only controversial in the field of Gynaecology, but also in the much wider world of Oncology.

I wish to gratefully acknowledge the helpful discussions and kind cooperation of a number of people: the Library staff at St. Bartholomew's, statisticians Miss M. Leighton and Mrs. J. Wadsworth, the Nursing Staff of Pitcairn Ward and Sr. P. Walker, my co-worker Mr. T. A. Poulton, my supervisor Professor C. N. Hudson, and my husband G. H. Kirkpatrick. Finally, one should not forget the courage of these patients, nearly all of whom are now dead, in submitting themselves to an experimental form of treatment, and who uncomplainingly had great demands made on their time for the in vitro monitoring described herein.

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