Projects beginning in 2000

2000/001

Impact of MCH genes on breast cancer

Aims

The requested samples from the Busselton Survey will be used as part of an overall research plan to examine:
• candidate disease genes for polymorphisms and mutations in germ-lines, somatic mutations in tumours, and the relative level of gene expression in normal and diseased tissue.
• genomic rearrangements and disturbances within the genomic regions of the candidate disease genes by using microsatellites and retroelements as markers.
Professor Hahnel's collection of breast cancer samples will be used to identify tumour somatic mutations by DNA sequencing and genomic rearrangements of microsatellite and retroelement markers by simple PCR methods. The Busselton Survey samples will be used as controls to define the sequence variation of candidate genes of Caucasians either with or without disease.

Investigators

• Assoc Prof Jerzy Kulski, Centre for Immunology and Instrumentation, UWA
• Professor Roland Hahnel, Centre for Immunology and Instrumentation, UWA
• Dr John Beilby, PathCentre
• Professor Hidetoshi Inoko, Dept of Molecular Life Science, Tokai University

Project status

Completed

Publications


2000/002

Folate and coronary heart disease mortality
Aims

1. To assess in the 1969 Busselton survey cohort if there is an association between serum or RBC folate level and subsequent total deaths and cardiovascular deaths.
2. To determine if any association that exists is independent of standard vascular risk factors.

Investigators

- A/Prof Joe Hung, Dept of Medicine, UWA
- Dr John Beilby, PathCentre
- Prof Matthew Knuiman, School of Population Health, UWA

Project status

Completed

Publications


2000/003

Establishment of a reference set of cell lines for studies of genetic factors relevant to transplantation, disorders of immune regulation and metabolic disease

Aims

1) Identify 200 representative individuals from the Busselton Population and undertake selection based on age and sex.
2) Establish EBV transformed lymphoblastoid cell lines on these individuals.
3) Propagate these cells, extract DNA from them and freeze aliquots of the cell lines for storage in two separate sites. Aliquots of the DNA should also be stored at two separate sites.
4) Progressively use this material for typing of the following genes:
   i. HLA and non-HLA genes within the MHC relevant to transplantation outcome and disease susceptibility
   ii. Minor histocompatibility genes and other genes relevant to donor recipient matching for transplantation purposes.
   iii. Genes encoding for cytokines and cytokine receptors which are relevant to transplantation and to disease.
   iv. Those genes for which the Department of Clinical Immunology and Biochemical Genetics provides a routine diagnostic service.
   v. Candidate genes for coronary artery disease and dyslipidaemia.
5. To utilise this reference material for determining diagnostic utility of these polymorphisms, control frequencies in disease studies, and for transplantation purposes.

**Investigators**

- Assoc Prof Frank Christiansen, Dept of Clinical Immunology, RPH
- Dr Peter Hollingsworth, Dept of Clinical Immunology, PathCentre
- Dr Campbell Witt, Dept of Clinical Immunology, RPH
- Mr Steve Pummer, Dept of Clinical Immunology, RPH

**Project status**

In progress

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**2000/004**

**The incidence of androgen deficiency determined by calculated free testosterone in elderly males in the Busselton population**

**Aims**

1. Determine the prevalence of androgen deficiency in a population based sample of elderly men using a reference range derived from young male subjects in the same population.
2. Compare the measurement of serum testosterone levels determined by total testosterone level with that derived from calculated free testosterone using sex hormone-binding globulin (SHBG), albumin and total testosterone, and examine the comparability of these measures at different ages.

**Investigators**

- Dr Jonathan Beilin, Dept of Endocrinology and Diabetes, Royal Perth Hospital
- Assoc Prof Peter Leedman, Dept of Endocrinology and Diabetes, Royal Perth Hospital
- Dr Gerard Chew, Dept of Endocrinology and Diabetes, Royal Perth Hospital

**Project status**

In progress

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**2000/005**
Lymphocyte activation and inflammation markers predict risk of future coronary events - a prospective study of the Busselton Health Survey population

Aims

1. To determine the association between serum markers of inflammation and lymphocyte activation and the subsequent development of myocardial infarction or stroke in the Busselton Health Survey.
2. To determine the interaction between serum markers of lymphocyte activation and inflammation, and the classical cardiovascular risk factors of cholesterol, blood pressure, diabetes and cigarette smoking level on subsequent risk of cardiovascular events in this population.

Investigators

- Dr Paul Langton, Dept of Medicine, UWA
- A/Prof Joe Hung, Dept of Medicine, UWA
- Prof Matthew Knuiman, School of Population Health, UWA
- Dr Peter Hollingsworth, Dept of Clinical Immunology, PathCentre
- Dr John Beilby, Dept of Clinical Biochemistry, PathCentre

Project status

In progress