The MOSAICC Study - Methodology


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Introduction

• The myeloproliferative neoplasms (MPNs) are a rare heterogeneous group of diseases.
• Characterised by an overproduction of both mature and immature blood cells of the myeloid lineage.
• The JAK2V617F mutation is central to all three disease entities.
• Newly discovered CALR mutation accounts for JAK2 / MPL negative MPN genetic profiles.

• The aetiology of these disease entities remains unknown.
• A systematic review conducted by Anderson et al. 2011, identified ethnic, occupational, medical and environmental risk factors.
• The paucity of data investigating MPN aetiology warranted the need for an exploratory case-control study.

Study Aim

• Evaluating:
  • Recruitment and response rates by randomisation of;
    • Monetary incentive
    • MPD Voice Trolley token
    • MOSAICC branded pen / plain pen / no
  • Administering a telephone questionnaire using Skype and Qualtrics software.
  • Assessment of occupational exposure using OccIDEAs and comparing this to FINJEM software.
  • Collection of saliva, blood spots and venous blood samples for DNA extraction and quantification and toe-nail samples for elemental analysis.
  • Utilising the myeloproliferative neoplasm symptom assessment form (MPN-SAF) to assess quality of life.
  • Methodological aspects to develop and optimise protocol for a future, multi-centred, UK-wide study investigating the aetiology of MPNs.

OccIDEAs

• A web-based application using expert exposure methods to assign exposure status by predefined algorithms for specific occupations.
• Agents which can be assessed using OccIDEAs software;
  • Adhesives (solvent glues, contact adhesives)
  • Blood borne pathogens
  • Combustion products (diesel exhaust, petrol exhaust, other exhausts, other PAHs)
  • Fertilizers (mineral, natural)
  • Formaldehyde
  • Inorganic dusts (asbestos, fibreglass, silica, other inorganic fibres/dusts)
  • Metals (lead, other toxic metals)
  • Nitrosamines
  • Oils (natural, mineral, synthetic)
  • Organic dusts (wood, grain, cotton, other organic dusts)
  • Polychlorinated biphenyl (PCBs)
  • Pesticides (organochlorines, organophosphates, phenoxy herbicides, other herbicides, other pesticides)
  • Pigments (paints, dyes, other pigments)
  • Radiation (ionizing radiation, UV, ELF, RF)
  • Resins (acrylamide, resins)
  • Shift work, jetlag
  • Solvents (benzene, other aromatic solvents, chlorinated solvents, aliphatic solvents, alcohol)
  • Sterilizing agents (ethylene oxide, other sterilizing agents)

### Mosaicc Study Recruitment to date

- 189 participants recruited;
- 89 Cases
- 39 GP Controls
- 61 Friend/Family Controls

**UK WIDE STUDY PLANNED FOR 2014/15**