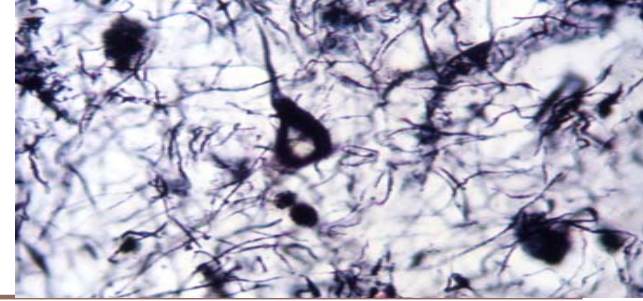


The UK Brain Bank Network –
working together to advance our
understanding of brain diseases

Professor James W Ironside

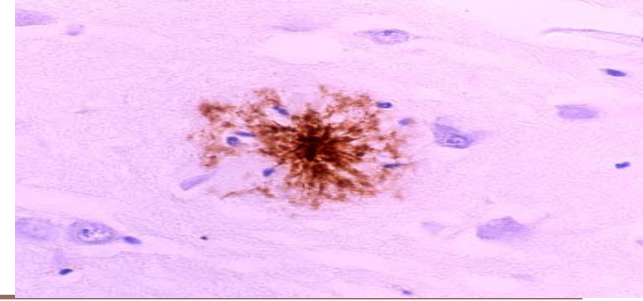
Division of Pathology, University of Edinburgh
Director, MRC UK Brain Bank Network

The need for human tissue samples in research on diseases



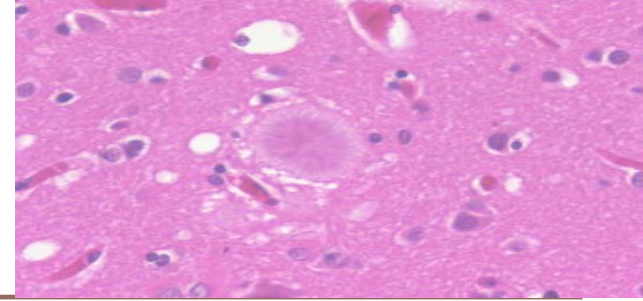
- **Brain diseases are becoming commoner in the UK.** Many of these result in dementia, which is a huge burden to patients, carers and the NHS. Dementia is now a NHS priority
- **We need a better understanding of the mechanisms of these diseases** in order to develop new approaches to treatment. Much can be learned from studying scans of the brain, and from brain cell cultures and animal models, but none of these model the complexity of the human brain
- **Studying human brain tissue has resulted in major scientific advances,** which will continue through the use of new technologies
- **Researchers need normal tissue samples** as well as disease samples, since these act as “controls” and provide a critical point of comparison

The need for brain banking in the UK



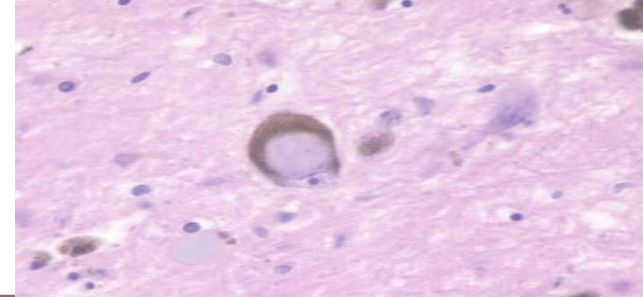
- Well-characterised tissue samples are required by researchers across the UK working on brain diseases in formats (eg. frozen tissue, fixed tissue) that allow a wide range of investigations to be carried out
- The material should be readily available from a range of brain diseases
- Normal “control” samples are also required
- Brain banking allows researchers access to the material they need, and provides tissue samples of high quality that are best suited to the particular project in question
- Many brain banks collect donations from patients that have been studied and assessed for many years, allowing a close comparison of clinical and tissue-based features of an illness, including the effects of treatments

Brain banks in the UK



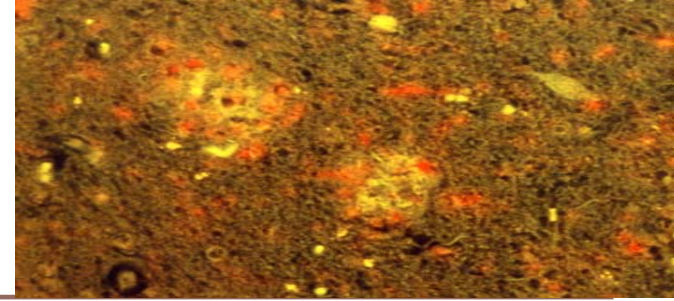
- 12 brain banks exist in UK neuroscience centres
- All have ethical approval for their work and in England the banks all have licences from the Human Tissue Authority
- Support for the banks varies – some are funded by MRC, others by charities, including the MS Society, Parkinson’s UK, and the Alzheimer Research Trust
- Some banks also have support from the National Institute of Health Research (NIHR), but this is not uniform and needs to be reviewed
- Most banks have specialised expertise in a particular disease, eg Alzheimer’s disease, CJD, HIV
- All banks require normal tissue samples

The MRC Brain Bank Network



- **Create a network** to link existing UK banks and support high standards of operation and efficiency
- **Focused purpose** – concentrate on strengths and avoid duplications; uniformly high operational standards
- **High public profile**, leading to increased donations through a managed programme
- **Facilitate research** by establishing a common database of tissues that is searchable by a website
- **Ensure suitable tissue storage** for DNA, proteomics, expression profiling etc.
- **Encourage NHS support** for brain banking

Progress and current aims



- **Coordinating centre established in University of Edinburgh** – posts now advertised
- **Steering Committee with experts** in ethics, pathology, biobanking and lay members. Charities and other research bodies also attend
- **Users Group** to let the Network know what researchers require
- **MRC call for proposals** to collect more “control” tissue samples
- **Public engagement strategy** with charities and other researchers
- **Website:**
<http://www.mrc.ac.uk/Ourresearch/Resourceservices/UKbrainbanksnetwork/index.htm>

The Future?

