NMRRC RAMS, Obninsk, Russia

IEM, Kiyv, Ukraine

THE CHERNOBYL TISSUE BANK (CTB)

A RESOURCE FOR INTEGRATING STUDIES ON THYROID CANCER

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Chernobyl Tissue Bank

On 26th April, 1986, reactor number 4 at the Chernobyl Nuclear Power Plant caught fire, releasing large amounts of volatile radioactive isotopes, including isotopes of iodine into the atmosphere. By 1992 it was apparent that there was a large increase in the incidence of thyroid cancer in children from the areas most contaminated by radioactive fallout – in Belarus, Ukraine and Russia. This increase in thyroid cancer remains today the major radiological health consequence of the accident, and is related mainly to one type of thyroid cancer – papillary cancer.

What is the CTB?

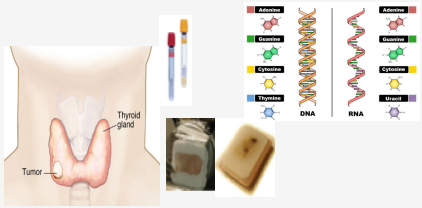
- An international project supported by the governments of Ukraine and Russia and funded by four sponsors. Coordinated from Imperial College London
- Sample collection began on 1st October 1998
- Makes biological material available for research from patients with thyroid cancer and follicular adenoma who were under 19 at the time of the Chernobyl accident.
- Collates research data on completed studies to enrich additional samples from the same patient

How are samples accessed?

- On line application process with review by an expert panel.
- Projects that are carried out jointly with the Institutes in Ukraine and Russia who supply the material are encouraged, but not mandated.
- Full details on how research groups can apply for material is available on the project website (www.chernobyltissuebank.com).
- Samples supplied with a minimum data set (tissue bank number, sex, age, oblast of residence, pathology review panel diagnosis, dosimetry).
- Investigators are also asked to report their results back to the project on a case by case basis at the end of their study. This enables correlation of involvement of multiple oncogenes from a single piece of material.

Samples available

- Samples obtained with full informed consent
- DNA from blood
- RNA and DNA from paired frozen samples of tumour and normal tissue and sections from FFPE blocks
- Cases reviewed by an International panel of expert pathologists and individual dose estimates provided
- 4885 cases available, including 3769 cases with frozen tissue.



What type of projects are using the samples?

- 2828 aliquots of RNA and 2477 aliquots of DNA from tissue, 1236 aliquots of DNA from blood and 9107 sections from FFPE blocks have been issued to date
- Projects use a variety of techniques from immunocytochemistry to RNASeq.
- Whole genome sequencing currently being carried out on 651 cases.
- Information on approved projects and resultant publications can be found on the project website (www.chernobyltissuebank.com).