Update:
The Chernobyl Tissue Bank

Rihab Yassin, Ph.D.
Division of Cancer Biology

BSA Presentation
November 07, 2011
The Chernobyl Tissue Bank (CTB)

- Thyroid cancer specimen bank from Chernobyl-affected patients
- Initiated in the aftermath of the Chernobyl nuclear plant accident
- International collaborative response to emerging evidence of increases in pediatric thyroid cancer
The Chernobyl Tissue Bank

<table>
<thead>
<tr>
<th>Age at Exposure</th>
<th>Belarus</th>
<th>Russian Fed.</th>
<th>Ukraine</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 14yrs</td>
<td>1711</td>
<td>349</td>
<td>1762</td>
<td>3822</td>
</tr>
<tr>
<td>15 – 17yrs</td>
<td>299</td>
<td>134</td>
<td>582</td>
<td>1015</td>
</tr>
<tr>
<td>Total</td>
<td>2010</td>
<td>483</td>
<td>2344</td>
<td>4837</td>
</tr>
</tbody>
</table>

WHO Report, 2006
The Chernobyl Tissue Bank

- Collects thyroid carcinomas/cellular adenomas from the contaminated oblasts
  - Russia and Ukraine
  - Patients 19 years/younger at the time of the accident
  - Operated on/after October 1, 1998
  - 3861 total cases; 2794 confirmed cancers

- Also collects clinical/pathological data
  - Pathology for all CTB cases is reviewed by a renowned Pathology Panel
Organizational Structure of the CTB

European Commission

National Cancer Institute

Sasakawa Foundation

CTB Coordinating Center
Imperial College London

WHO

Russia

Ukraine

Belarus
The Chernobyl Tissue Bank Governance

(https://www.chernobyltissuebank.com/index.html)
Access to CTB Biomaterials

• Applications reviewed by the CTB External Review Panel
  • Ranking based on scientific merit
  • Concurrence by the CTB Scientific Advisory Board

• Does not supply thyroid tissue, only tissue sections and extracted bioanalytes
  • Preserves valuable specimens for future research
  • Enables broad assessments of the tumors
# Biomaterials Released to Approved Projects

<table>
<thead>
<tr>
<th>Type of Sample</th>
<th>Aliquots Released</th>
<th>Released 09/08-present</th>
</tr>
</thead>
<tbody>
<tr>
<td>RNA</td>
<td>2397</td>
<td>726</td>
</tr>
<tr>
<td>DNA</td>
<td>1627</td>
<td>818</td>
</tr>
<tr>
<td>DNA from Blood</td>
<td>451</td>
<td>305</td>
</tr>
<tr>
<td>FFPE Sections</td>
<td>6300</td>
<td>722</td>
</tr>
</tbody>
</table>
Largest collection of thyroid tumors

Scientific collaboration on limited tissues - exchange of results

The incidence of thyroid cancer is rising in the US (Papillary)

Model for global collaboration on the biology of cancer

Recent events in Japan
The Chernobyl Tissue Bank

Questions?