Session 4: Clinical and biological samples: Opportunities and challenges for translational research

From the OR to Clinical database... what for?

The example of UroCCR

Jean-Christophe Bernhard,
Bordeaux University Hospital
Definition

• **Urologist**: surgeon specialized in the treatment of genito-urinary diseases (multiple organs and multiple diseases)

• **Database**: structured tool, allowing the organized storage of big quantities of information in order to facilitate their exploitation (addition, update, specific search, export for analysis...)

Réseau français de Recherche sur le cancer du rein
Why would a surgeon need a prospective DB?

- Collect data on a scientific purpose.
- Ensure the quality of data used for clinical or translational research using oriented Case Report Forms and DM controls.
- Store data in agreement with the rules:
  - Compliance with the law about patient privacy ("Loi du 6 janvier 1978 relative à l’informatique, aux fichiers et aux Libertés").
  - Ensure a secure access to the data (CNIL +++).
  - Compliance with the good practice guidelines in epidemiology.
- To generate a team spirit and create a network on a specific topic.
- To publish !
We daily produce data

Demographics and Medical data

Biological samples associated data

Experimental results

Research
Objectives

1- Create a **multidisciplinary web-shared database** model dedicated to Kidney Cancer.

2- Distribute this tool at a national level to generate a **medico-scientific research network**.

3- Create an annotated **national biosample collection**.

4- Develop some **ancillary research projects**.

5- Ease the development of scientific and clinical research on kidney cancer.
UroCCR concept

A set of more than 1022 variables organized in 34 tables
Evolution of the model
Organize your local network and...

Urology

Oncology

Pr A. Ravaud, Dr M. GG

Radiology

Pr Grenier, Dr Cornelis

Pathology

Dr M. Yacoub

Inserm

Unit Director: Pr. A. BIKFALVI

Biobank

Pr Merlio

Oncogenetics

Pr D. Lacombe
Dr P. Fergelot

S. Ricard
S. Maleca

ARC

GENOMIC PLATFORM

SERVICE DE PHARMACOLOGIE

UNIVERSITÉ DE BORDEAUX
... extend collaborations

1. From a multidisciplinary web-shared database...

2. ... to a national kidney cancer network BCB-INCa
UroCCR in the urologic panorama

Learned societies

Recommandations

Cancer registries

Patients Asso.
<table>
<thead>
<tr>
<th>Articles</th>
<th>Nb de cas</th>
<th>Nb d’échantillons</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL MORTALITY AFTER RADICAL NEPHRECTOMY IN PATIENTS AGED OVER 80 YEARS WITH RENAL CANCER: A RETROSPECTIVE STUDY ON PREOPERATIVE PROGNOSTIC FACTORS. Int J Urol. 2012 Jul;19(7):626-32.</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>DETAILED ANALYSIS OF MORBIDITY FOLLOWING NEPHRECTOMY FOR RENAL CELL CARCINOMA IN OCTOGENERIANS. J Urol. 2012 Sep;188(3):736-40.</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>MET IS A POTENTIAL TARGET ACROSS ALL PAPILLARY RENAL CELL CARCINOMAS. RESULT FROM A LARGE MOLECULAR STUDY OF PRCC WITH CGHA AND MATCHING GENE EXPRESSION ARRAY. Clin Cancer Res. 2014 Mar 21.</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>EARLY UNCLAMPING TECHNIQUE DURING ROBOTICALLY-ASSISTED LAPAROSCOPIC PARTIAL NEPHRECTOMY CAN MINIMIZE WARM ISCHEMIA WITHOUT INCREASING MORBIDITY. BJU Int. 2014 Apr 2.</td>
<td>67</td>
<td>0</td>
</tr>
</tbody>
</table>

Total : 172 44
# Scientific achievements: Publications

<table>
<thead>
<tr>
<th>Abstracts</th>
<th>Nb de cas</th>
<th>Nb d’échantillons</th>
</tr>
</thead>
<tbody>
<tr>
<td>RENAL CELL CANCER IN YOUNG ADULTS: PREVALENCE, CHARACTERISTICS, AND IMPACT OF XP11.2/TFE3 TRANSLOCATION CARCINOMA DIAGNOSIS. Eur Urol Suppl 2013;12;e763 EAU annual meeting – Milan (Italy) 2013. (CA)</td>
<td>72</td>
<td>72</td>
</tr>
<tr>
<td>NON CLEAR CELL RENAL CELL CARCINOMAS: ONCOLOGICAL OUTCOME AFTER NEPHRON SPARING SURGERY BASED ON AN INTERNATIONAL MULTICENTER STUDY. Submitted to EAU and AUA 2015.</td>
<td>84</td>
<td>0</td>
</tr>
<tr>
<td>THE SUBCLASSIFICATION OF PAPILLARY RENAL CELL CARCINOMA DOES NOT AFFECT ONCOLOGICAL OUTCOMES AFTER NEPHRON SPARING SURGERY. Submitted to EAU and AUA 2015.</td>
<td>84</td>
<td>0</td>
</tr>
<tr>
<td>FROM CLINICALLY LOCALIZED TO PT3a RENAL CELL CARCINOMA: WHAT ARE THE PREDICTIVE FACTORS OF UNEXPECTED PATHOLOGIC UPSTAGING? Submitted to EAU and AUA 2015.</td>
<td>631</td>
<td>0</td>
</tr>
<tr>
<td>IS LAPAROSCOPIC PARTIAL NEPHRECTOMY A SAFE TREATMENT OPTION FOR UNEXPECTED PT3a RENAL CELL CARCINOMA? Submitted to EAU and AUA 2015.</td>
<td>631</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>1729</strong></td>
<td><strong>526</strong></td>
</tr>
</tbody>
</table>
Scientific achievements: International collaborations

University of Southern California - USA

Kumamoto University - Japan

Ankara University - Turkey

University of Oslo - Norway

Teikyo University - Japan

British Association of Urologic Surgeons - GB
4 years after INCa’s support, where do we stand?

- **National network** (14 centres CHU et CLCC)
- **Governance and Consortium agreement** (*Comités directeur, scientifique et de pilotage*)
- **Secured Web-shared database**
- **Compliance with the rules** (*CNIL, CPP, patients’ consent, biosample collection*)
- **Only « INCa clinico-biological database » in Urology.**
- **Unique concept** on RCC at a national level
  
  most important source of samples and data prospectively recorded about RCC.

- > 3000 patients included *(oct 2015).*
- > 100 monthly inclusions
- > 7000 biological samples *(oct 2015).*
Integration of UroCCR in the clinical practice

Demographics, Environment exposure, Risk factors, Disease Characteristics...

Treatments: surgery, interventional radiology, targeted therapies...

Radiology, Biology, Oncogenetics...

Biosample Collection

Follow-up, Cancer and functional outcomes, Quality of Life, Medico-economics data...
Conclusion

1- A web-based prospective database is a powerful tool not to loose all the resources that are daily produced on the occasion of our medical practice.

2- It gives value to a biological sample collection by annotating it.

3- Sharing the same model with several centers leads to the creation of a translational collaborative network.

4- A DB can also be used as a tool to manage the ongoing research projects.
Acknowledgements

Equipes cliniques: CHU Bordeaux, CHU Kremlin Bicêtre, CHU Toulouse, ICR, CHU Rennes, IGR, CHU Angers, HEGP, CHU Lyon Sud, CHU Strasbourg, CHU Grenoble, CH St Joseph, CHU Mondor, CHU Rouen, CHU Lille.

Sociétés savantes:

Partenaires:

Promoteur: CHU Hôpitaux de Bordeaux

Sponsors:

Comité Directeur:
Dr Hervé Baumert
Pr Karim Bensalah
Dr Jean-Christophe Bernhard
Dr Pierre Bigot
M. Pascal Boucher
Dr Bernard Escudier
Dr Pascale Grosclaude
Pr Hervé Lang
Mme Maya Lauriol
Dr Jean-Alexandre Long
Pr Arnaud Méjean
Pr Nicholas Moore
Pr Philippe Paparel
Pr Jean-Jacques Patard
Pr Laurent Salomon
Pr Michel Soulé
Dr. Sylvie Blazejewski

Comité Scientifique:
Dr Hervé Baumert
Pr Karim Bensalah
Dr Jean-Christophe Bernhard
Dr Pierre Bigot
Pr Stéphane Culiné
Pr Nicolas Grenier
Pr Hervé Lang
Pr Arnaud Méjean
Pr Jean-Jacques Patard
Pr Nathalie Rioux-Leclercq
Pr Michel Soulé

Equipe opérationnelle:
ARC coordinatrice: Mme Solène Ricard
Promotion CHU de Bordeaux: Mme Sophie Tabuteau
Collection biologique: Mme Maya Lauriol
Affaires juridiques: Mme Anne Larchevêque
Sécurité et maintenance informatique: Equipe CIC 1401