

Center for Translational Molecular Medicine

PCMM Biobank, IT-infrastructure and decision support Authors: T. Hulsen, H. Obbink, E. Schenk, M. Wildhagen and C. Bangma Disease area: Oncology

Introduction

In Western countries, prostate cancer is the most frequent malignancy and one of the major causes of cancer-related death in men. The Prostate Cancer Molecular Medicine (PCMM) project addresses two major clinical needs in prostate cancer, namely the reduction of overdiagnosis and overtreatment of this disease due to screening and the improvement of therapy monitoring of advanced disease. While work packages 1 and 2 are related to the discovery of biomarkers and the development of novel imaging approaches, work package 3 (WP3) is about biobanking, the IT infrastructure and decision support.

Data collection Landact Vascuar Unadects Putmonary Neurologic No Po No Po

PCMM biobank

The four PCMM clinical centers are jointly establishing a prospective biobank containing blood, urine, tissue, clinical and imaging data from the following patient groups: 1) 200 men biopsied for prostate cancer

- 2) 200 men with localized prostate cancer who undergo primary treatment by radical prostatectomy



Translational Research IT infrastructure

The IT infrastructure that is being set up for PCMM will also be part of the new CTMM project TraIT (Translational IT Infrastructure). The current PCMM infrastructure includes OpenClinica, NBIA and CaTissue. Overmore, a central, integrated PCMM database has been setup which contains data from all different fields.

3) 55 men with metastatic hormone-refractory prostate cancer who participate in a Phase I trial with therapy response monitoring by molecular imaging in WP2 The PCMM biobank will be part of the Dutch String of Pearls (**Parelsnoer**) initiative.

Current status

At this moment (June 2013), data from 157 patients of patient group 2 have been collected. This includes >368,000 MRI images and ~1900 US images, as well as clinical data (lab values, questionnaires), blood/urine/tissue data, radiology reports and pathology reports. For 95 patients, data collection has been completed. The collection for patient groups 1 and 3 is being setup.

pcmm Integrated PCMM Database Last update: 2012-May-15



		Imag	ing	Biot	bank	Reports									
						General 1							General 2		
PCMM ID	<u>Institute</u>	MR	<u>us</u>	<u>Pre-op.</u>	<u>Post-op.</u>	<u>Pathology</u>	<u>Year</u> <u>of</u> birth	<u>Allerqy /</u> hypersensitivity	<u>Smoker</u>	<u>Ex-smoker</u>	<u>Do you</u> <u>drink</u> <u>alcoholic</u> beverages?	<u>How</u> <u>many</u> glasses <u>per</u> day?	<u>WHO score</u> at diagnosis	<u>Medication</u>	<u>Which medication</u>
02.0002	NKI	<u>1376</u>	<u>29</u>			1	1949	No	No	No	Yes	2		Yes	atacand 80mg, paroxetine 20mg, lorazepam 1 mg, sotalol 80mg
02.0012	NKI	<u>26</u>	<u>30</u>			1	1953	Yes	Yes	No	Yes	3	Asymptomatic - normal activity	Yes	pantazol
02.0006	NKI	<u>5338</u>	<u>35</u>			1	1943	Yes	No	No	No		Asymptomatic - normal activity	Yes	losartan 50/12,5, felodipine 5 mg,
02.0010	NKI	<u>1348</u>	<u>38</u>			1	1947	No	No	Yes	Yes	21	Asymptomatic - normal activity	No	
02.0053	NKI	<u>1508</u>	4			<u>1</u>									
02.0051	NKI	<u>2644</u>	5			<u>1</u>									
03.0007	UMC St. Radboud	<u>919</u>	5				1949	No	No	No	Yes	2	Asymptomatic - normal activity	Yes	tamsulosine
03.0006	UMC St. Radboud	<u>919</u>	5				1956	No	No	No	Yes	1	Asymptomatic - normal activity	Yes	pantoprazol

Decision Support System (DSS)

PCMM is developing an IT infrastructure to allow for the inclusion of results from novel biomarker tests and imaging tools into a DSS for prostate cancer. Such a system will assist physicians in the selection of the **best individual treatment** strategy for their patients diagnosed with prostate cancer. As a part of this system, several open source applications have already been installed and are operational, such as the OpenClinica software package and various CaBIG (Cancer Biomedical Informatics Grid) applications e.g. NBIA and CaTissue for storing and analyzing clinical, imaging and tissue data. These applications are web-accessible to the authorised participants of WP3.

Participants

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