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BIOBANKING FOR GLOBAL CHALLENGES

The Belgian Virtual Tumourbank (BVT) Project: Availability of metastases in the catalogue

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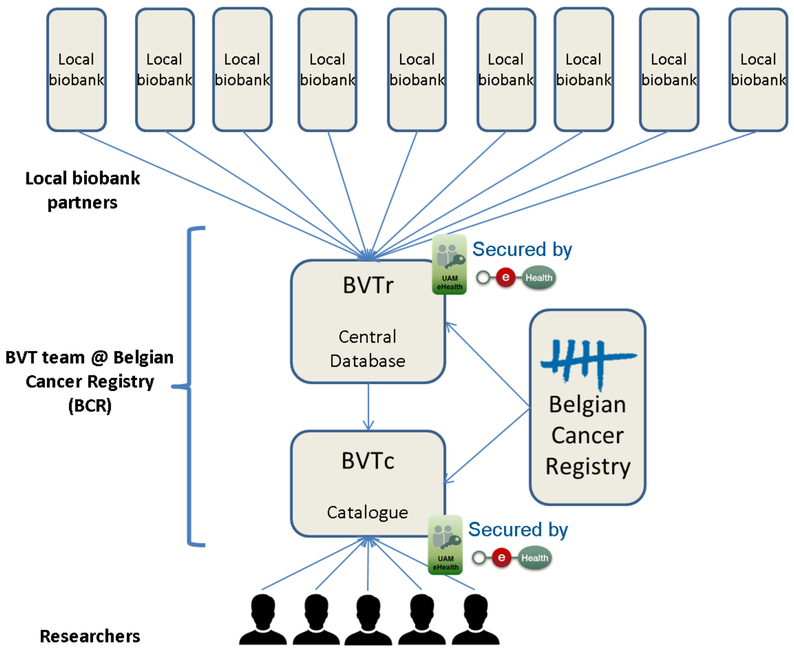
THE BELGIAN VIRTUAL TUMOURBANK
Belgian Cancer Registry

INTRODUCTION

Biobanks play a critical role in **cancer** research by providing high quality biological samples for research. However, the availability of tumour samples in single research institutions is often limited, especially for **less frequent** sample types.

The Belgian Virtual Tumourbank (BVT) network encompasses the tumour biobanks from **11** Belgian university hospitals that collect and store **residual human tumour samples**. In order to facilitate the search for tumour samples scattered among different institutions, data collected at sample level is made available for researchers via the online **BVT catalogue (BVTc).**



High quality of the data is guaranteed by automatic and manual controls performed by the BVT project team at the Belgian Cancer Registry.

AIM

Investigate the availability of metastasis samples stored in the catalogue of the Belgian Virtual Tumourbank.

RESULTS

In October 2020, a total of **107,935** registrations were available in the BVTc, including **92,730 (86%) primary tumour** samples and **13,235 metastasis (12%)** samples.

For 9,121 (60%) registrations of metastases only tumour tissue samples are available. Also additional types of materials (40%) can be stored at the local biobank.

The most common type is corresponding normal tissue (48%). Blood (20%), plasma (14%) and serum (11%) are also available in some local biobanks.

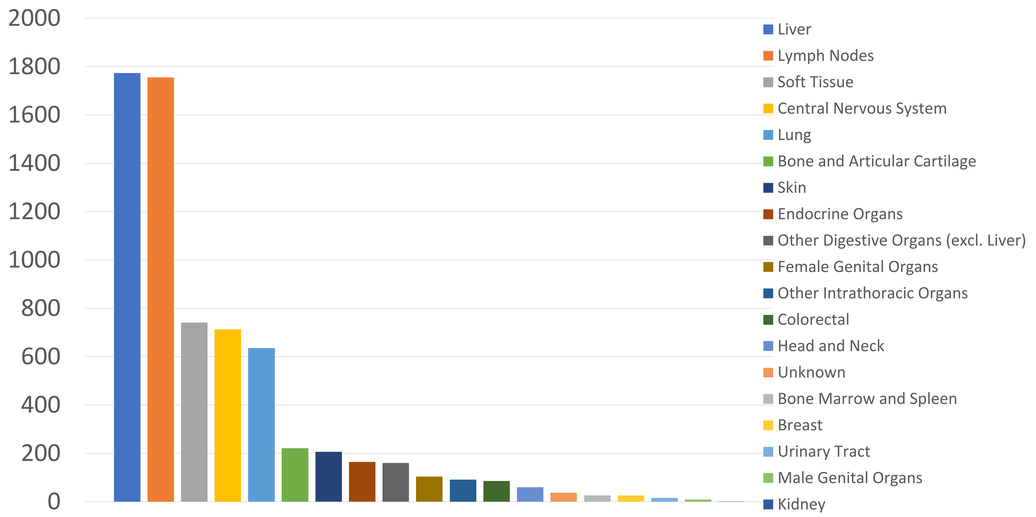
For almost 10% of the estimated patients metastasis as well as the associated primary tumour samples are available.

Descriptive variables of metastasis samples	n (%)	mean ± S.D.
Age	-	62.3 ± 13.9
Gender (female/male)	13,235 (49.2 / 50.8)	-
Conservation mode (paraffin/-80°C)$	14,266 (25.9 / 74.1)	-
Conservation delay (≤ 30 min/ > 30 min / unknown)	13,235 (25.8/ 20.0 / 54.2)	-
Available material (only tumour tissue / other material*)$$	15,283 (59.7 / 40.3)	-
*corresponding normal tissue	2,874 (46.6)	-
*blood	1,216 (19.7)	-
*plasma	902 (14.6)	-
*serum	686 (11.1)	-
*buffy coat	235 (3.8)	-
*DNA	214 (3.5)	-
*RNA	31 (0.5)	-
Estimated number of patients	6,814 (51.5)	-
Associated primary tumour samples	658 (9.7)	-

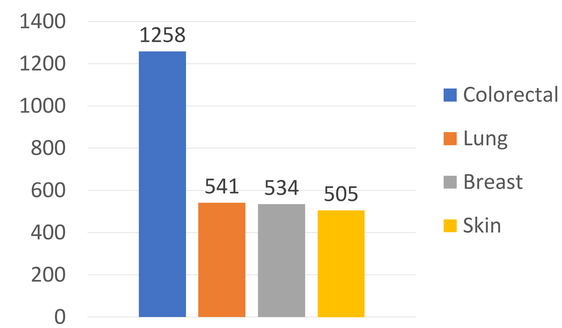
$ For historical registrations (until sample year 2013) multiple conservation modes could be indicated
$$ Multiple types of available material can be indicated

What are the localisations of metastasis samples?

The most common sample localisations of the metastasis samples in the BVT catalogue are liver (26.0%) and lymph nodes (25.8%). Soft tissue completes the top three of sample localisations with 10.9%, followed by central nervous system (10.5%)



What are the most common corresponding primary tumour localisations?



The metastasis samples most commonly originate from primary tumours of colon and rectum (18.5%), lung (7.9%), breast (7.8%) and skin (7.4%). For 34.6% of the patients the localisation of the primary tumour is unknown.

CONCLUSIONS

The BVT catalogue is of great value for cancer research, in particular for less frequent sample types such as metastases.
More than half of the available metastasis samples originate from liver and lymph nodes with colon and rectum as most common primary tumour. For some metastatic samples, also associated primary tumour and/or other additional samples are available for researchers.

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