



SUCCESSFULLY BUILDING UP A BROADLY USABLE COHORT: EXAMPLE COVID-19 CONVALESCENTS

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Austrian Cohort Research Days, Vienna, 25-26 April 2023

COVID-19 CONVALESCENT COHORT – OVERVIEW



COHORT AIM:

- **Provision of well-characterized, high-quality samples to researchers and companies on collaborative basis**
- Provision of blood derivatives for COVID-19 and infections research
- Evaluation and development of emerging antibody tests and neutralization tests
- Identification of prognostic biomarkers (long-term outcome, protective effect, ..)
- Monitor antibody titers/kinetics over time
- Comparing the performance of various antibody test systems
- Post/Long COVID research
- Etc...

COVID-19 Convalescent Cohort (n = 366)

5 Visits

- **1st Visit:** Sample collection + questionnaire (symptoms, comorbidities, prehistory & lifestyle)
 - **2nd Visit (+1 M)**
 - **3rd Visit (+2 M)**
 - **4th Visit (+5 M)**
 - **5th Visit (+12 M)**
- Sample Collection**
-

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2

COVID-19 CONVALESCENT COHORT – OVERVIEW



LONGITUDINAL COHORT AT BIOBANK GRAZ OF THE MEDICAL UNIVERSITY OF GRAZ:

COHORT SIZE:

- 366 donors, more than 35 000 aliquots

COHORT COMPOSITION:

- Serum; EDTA plasma; EDTA buffy coat; Li-Hep plasma; Na- Citrate plasma; DNA (isolated from buffy); Saliva; Swabs (e.g. naso- and oropharyngeal)
- All samples stored at -80°C


ASSOCIATED DATA:

- Symptom characteristics
- Clinical history (comorbidities)
- Lifestyle and prehistory
- Antibody levels

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3

COVID-19 CONVALESCENT COHORT – LESSONS LEARNED



COLLECTING TOGETHER - SHARED INTERESTS AND BENEFITS

- Biobank Graz collected cohort in cooperation with six divisions/departments
 - Division of Infectious Diseases, Department of Internal Medicine
 - Department of Blood Group Serology and Transfusion Medicine
 - Diagnostic and Research Institute of Hygiene, Microbiology and Environmental Medicine
 - Clinical Institute of Medical and Chemical Laboratory Diagnostics,
 - Department of Ophthalmology
 - Institute for Medical Informatics, Statistics and Documentation
- Sharing samples and data:
 - cost effective
 - higher numbers of patients could be included in a short time
 - one partner alone would not have been able to set up such a big and well annotated cohort within a few months
 - Informed consent: Study specific and Biobank Graz broad consent



Cohort was designed as study cohort

- Provision of staff (Study Nurse) as a service to foster a quick and smooth collection start

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4

COVID-19 CONVALESCENT COHORT – LESSONS LEARNED



SAMPLE QUALITY – QUICK ACCESS – USAGE RATE

- Documentation via shared database (RDA Tool: hosted by Institute of Medical Informatics)
 - High effort and maintenance needed to receive cohort without data gaps!
 - Expandable database proved very beneficial (supplementary data points)
- Sample quality and pre-analytical documentation of major importance in order to guarantee the reproducibility of research findings
- Ethics approval supported by Biobank Graz:
 - useful service for cooperating researchers
 - no new application needed, projects can be submitted as an amendment
- Usage rate of cohort currently ~12%
 - Samples still frequently requested:
 - broad usability due to detailed corresponding datasets



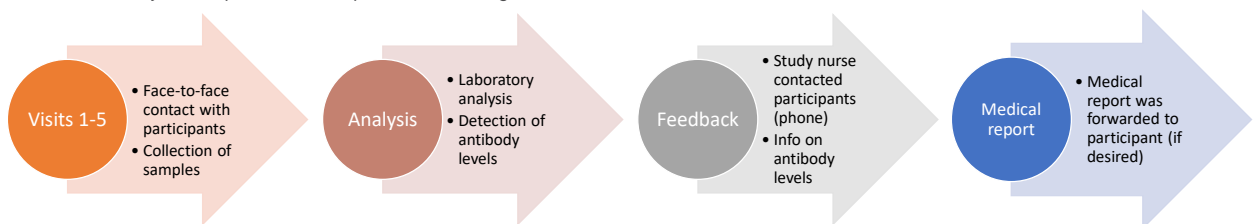
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COVID-19 CONVALESCENT COHORT – LESSONS LEARNED



PATIENT ENGAGEMENT

- Biobank Graz Study Nurse supported the process
- Contact point for patients
- Very low drop out rates compared to other longitudinal studies!



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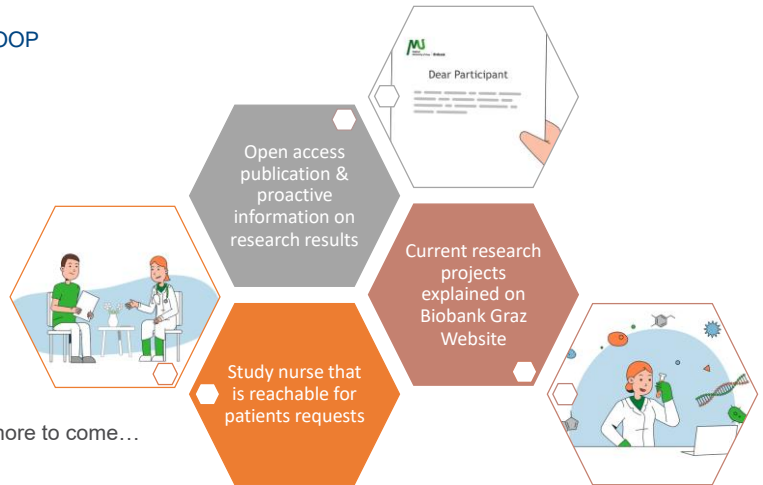
6

COVID-19 CONVALESCENT COHORT – LESSONS LEARNED



PATIENT ENGAGEMENT – FEEDBACK LOOP

Patients/Public: Increased awareness for research and biobanking

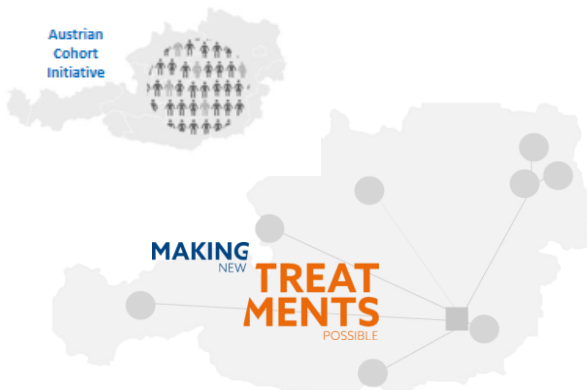


KEY RESEARCH FINDINGS

- Publications by all partners were published – more to come...
- <https://biobank.medunigraz.at/en/for-patients>

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7



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THANK YOU!