Respiratory Effectiveness Group

ADVANCES

in Real-life Respiratory Research

The Respiratory Effectiveness Group Newsletter
ISSUE AUGUST 2022

www.regresearchnetwork.org

THE RESPIRATORY EFFECTIVENESS GROUP NEWSLETTER

ISSUE AUGUST 2022

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REG Respiratory Effectiveness Group

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EDITORIAL

Giorgio Walter Canonica
REG President

I joined REG more than10 years ago and I had the chance to appreciate the easy way to share ideas, to discuss, to make projects and…to realize them. In this perspective, I always considered the REG President as "primus inter pares", which actually is not the case in many organizations I had chance to work with.

This is one of the major reasons why I accepted to "lead" REG for the next two-year mandate 2022-2024…also in consideration of the motto, which inspired me in previous presidencies: *Innovation in Continuity*.

In this respect I have to thank Sinthia Bosnic-Anticevich, our last President, who did an impressive job during her Presidential mandate, although dramatically troubled by COVID.

One of the major REG initiatives will be a coordinated, with other scientific organizations, procedure to integrate the values of RWE in the current Guideline procedure. Actually, in the last years a remarkable, and growing, attention has been paid to the credibility of the RWE impact. The increasing awareness of EBM (Evidence Based Medicine), sometimes, doesn't provide answers/solutions to frequently required needs in clinical practice, underpinned the relevance and necessity of integrating the EBM with data derived by RW (Real World) studies. In this context, I wish to remind you that REG promoted the RWE Manifesto a few years ago (published in 2019), initiating a new process to establish a hierarchy of the RWE (Real World Evidence). This has to be based on the correct methodology of the studies, as then also reported in a few documents and position papers of other scientific organizations.

As in the past, we will collect Real Life Research proposals to be developed by REG Working Groups, already existing or newly set up. We thought to expand the REG network and so, to further promote REG's philosophy and strategy, we appointed distinguished scientists to be REG Advocates (see list below) , whose aim will be to promote the relevance and the credibility of RWE, when methodologically properly collected. As an example of this, let me just remind the example of Disease Registries, national and international, enriching our clinical knowledge every day from one site and making us aware of the RW differences in different regions or countries.

I wish you a fruitful participation in REG and I invite you to attend the next REG SUMMIT 2023 in Lisbon

Sincerely Yours

Giorgio Walter Canonica
Professor Respiratory Medicine - Humanitas University
Head Personalized Medicine Asthma & Allergy Clinic - Humanitas Clinical & Research Hospital-IRCCS
Milano-Italy

Current REG Advocates:

— **Professor Mona Al Ahmad** – Kuwait
— **Professor Job van Boven** – Netherlands
— **Dr. Amy Chan** – New Zealand
— **Professor Stefania Gallo** – Italy
— **Professor Nick Hanania** – USA
— **Professor Chin Kook Rhe** – South Korea
— **Professor Therese Lapperre** - Belgium
— **Professor Christian Virchow** – Germany

REG TEAM UPDATE

Michael Walker
REG CEO

The very successful REG Summit was held in Barcelona from 17th to 19th March. Everyone was delighted to be meeting face-to-face once again after the long pause of live events. The stimulating scientific programme provided participants with opportunities for in-depth discussions about the many issues and controversies that challenge everyday care of patients.

On the day prior to the Summit meeting, REG Working Groups met to discuss and continue to develop their respective research projects. The Working Group meetings are an important opportunity for our Working Group members to connect and discuss on current research projects or share new ideas.

The last few months have also been focused on the various REG research projects that are in development and an update can be read in this edition. Just two examples:

1) The Peak Inspiratory Flow in COPD non-interventional study has now closed to recruitment having successfully recruited over 400 patients from 19 centres across the world (South Korea, Singapore, Spain, Italy, Malta, Slovenia and Belgium).

2) A new project is about to be rolled out globally to all ILD/IPF treating centres focused on eMDTs and resource use in this covid era.

Face to face meetings of the Working Groups are also scheduled to take place during the ERS congress this September in Barcelona, to which we invite all collaborators and supporters to join.

I would like to acknowledge the support from our long-term supporters; without their ongoing collaboration a lot of the work of REG would not be possible. I hope others are encouraged by the activities of REG and the REG Working Group meetings and will collaborate with us later this year or plan to in 2023. We will continue to support and reach out to our partners as we work together in real-life research.

REG WORKING GROUP
MEETING SCHEDULE @ ERS 2022

REG is pleased to announce the resumption of in-person Working Group meetings taking place at ERS this year. Meetings are open to everyone (collaborators and supporters) so please come along to those of particular interest to find out about REG and its research projects and re-connect with many of your colleagues. Online participation in the meetings will also be possible.

SATURDAY 3RD SEPTEMBER	CET/Time
09:00–10:00	**Allergy Working Group**
10:00–11:00	**ILD/IPF Working Group**
11:00–12:00	**Environment, Epidemiology and Airways WG**
12:00–13:00	**COPD Working Group**
13:00–14:00	**Biomarkers & Severe Asthma Working Group**
14:00–15:00	**Technologies Working Group**
15:00–16:00	**Database and Coding Working Group**
16:00–17:00	**Adherence Working Group**
17:00–18:00	**Cost Effectiveness Working Group**
18:00–19:00	**Child Health Working Group**

The Working Group meetings will take place on **Saturday 3rd September**.

The meetings will be held in the
Hotel SB Plaza Europa,
Carrer de les Ciències,
11, 13, 08908 L'Hospitalet de Llobregat,
Barcelona.

(Phone: +34 935 03 00 00)

Hotel Location and access

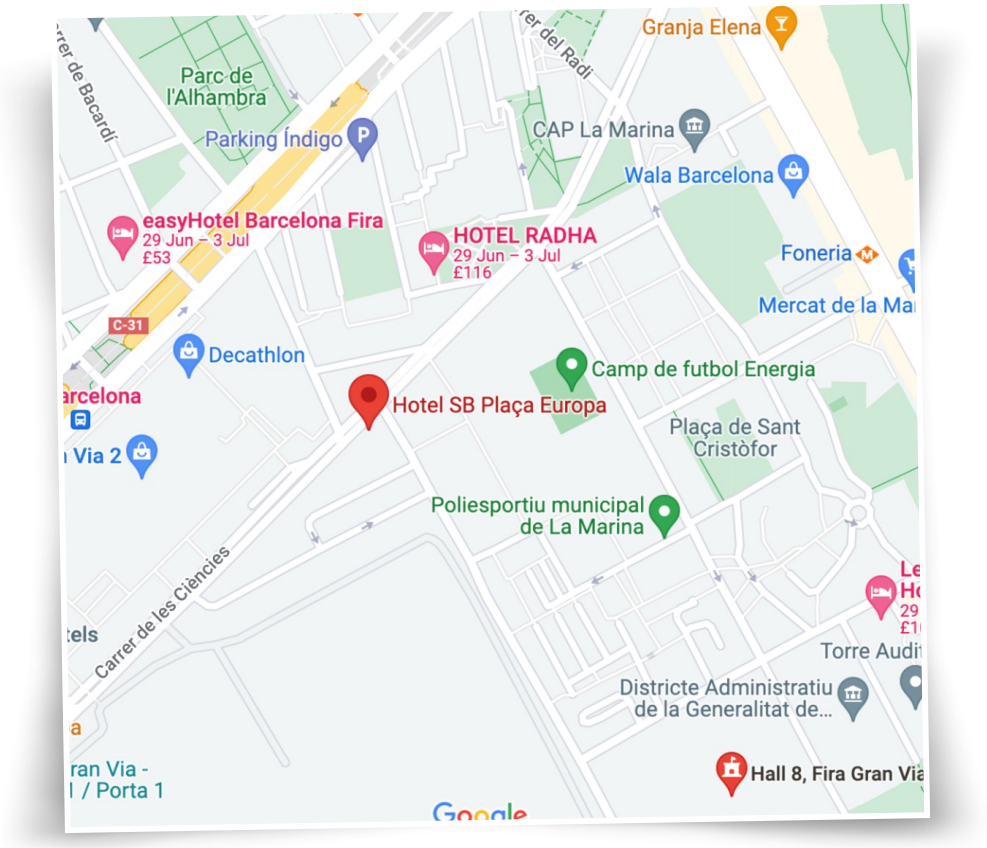
The hotel is located close to the ERS Congress venue FIRA Barcelona Gran Via congress centre, Hall 8 (approx.5 minute walk)

By metro:

- Line L9 sud. Metro stop: **Fira**
  Just 900 meters from the hotel (10 minute walk)
- Line L10 sud. Metro stop: **Ciutat de la Justícia**
  900 meters from the hotel
- Line 10 sud. Metro stop: **Foneria**
  700 meters from the hotel (8 minute walk)

REG WORKING GROUP MEETING SCHEDULE @ ERS 2022

By train
Station: **Ildefons Cerdà**
Just 350 meters from the hotel (5 minutes walk)



Due to the limited availability of meeting rooms at this year's congress, time is limited for Working Group meetings. If you would like to request a meeting in reference to a specific project or Working Group that is not listed on in the provisional timetable, or wish to organise a more informal meeting with other Collaborators or any member of the team, please contact enquiries@regresearchnetwork.org to schedule a time.

AUGUST 2022

WORKING GROUP UPDATE

ALLERGY WORKING GROUP

The group is developing new project ideas in the areas of allergic asthma and AIT that will be explored at the working group meeting at ERS in September. Further analysis on the impact of allergic rhinitis on health-related quality of life in Australia has been completed and the manuscript is in preparation.

TECHNOLOGY WORKING GROUP

Potential new project ideas will be discussed at the working group meeting at ERS. A review of a study which aims to identify the acceptability and usability of a package containing a triple formulation digital inhaler, sensor, and app in patients with poorly controlled asthma is on-going.

COUGH WORKING GROUP

The group is discussing the next phase of the 'burden of chronic cough on adults in primary care in the UK' project.



ENVIRONMENT, EPIDEMIOLOGY & AIRWAYS WORKING GROUP

Phase 1 of the Inhaler Choice & Environment (ICE) project, which used questionnaires for HCPs and asthma/COPD patients to assesses the impact of inhaler choice on patient care and the environment, has been completed. The manuscript is currently being written.

A new steering committee has been formed for phase 2 of the project: a modified Delphi and priority setting task for experts in the field to achieve consensus on priorities of inhaler choice and the environment. Visit the study site for more details: https://www.regresearchnetwork.org/research-2/inhaler-choice-the-environment/.

ILD WORKING GROUP

Pilar Rivera-Ortega has taken the role of the working group chair and is leading the exciting new Boehringer Ingelheim supported project characterising ILD diagnosis through distanced virtual multidisciplinary team meetings (vMDTs) in the post-COVID era, which is about to begin! An international steering committee has developed a survey that will be distributed globally to ILD centres in late August. An abstract for the study has been accepted for presentation at the 21st International Colloquium on Lung and Airward Fibrosis (ICLAF) in October. For more information on the study, please visit: https://www.regresearchnetwork.org/research-2/global-evaluation-of-the-interstitial-lung-disease-ild-diagnostic-pathway-in-the-post-covid-era/

COST EFFECTIVENESS WORKING GROUP

Brett McQueen has stepped up to be the new chair of the working group. REG would like to thank Job Van Boven for his insight and time as chair. The group will have their first meeting under the new chair in ERS in September to generate new project ideas.

ADHERENCE WORKING GROUP

The scoping review project funded by TEVA is ongoing. The study proposes to develop two scoping reviews to describe the:

1) Evidence relating to adherence interventions and the implications for future development of adherence strategies including digital technologies.
2) Inclusion of adherence strategies in respiratory guidelines and make recommendations for future guideline development.

The aims of both reviews have been finalised after assessing 644 scientific papers which have provided a broad overview of the state-of-the-art of medication adherence measurement, assessment methods and strategies as well as guidelines applied in complex and chronic conditions including asthma and COPD. The papers have been reviewed and analysis performed, and the manuscripts are in preparation.

CHILD HEALTH WORKING GROUP

The group is actively working on the PaEdiatric Asthma in Real Life (PeARL) project which aims to develop systematic approaches for formulating globally valid recommendations in paediatric asthma.The group has recently published three papers in journals with high impact factor including Allergy and J Allergy Clin Immunol Practice and is currently working on two new potential manuscripts on assessing the current treatments adopted for asthma exacerbations and common discrepancies in paediatric asthma.

A retrospective database study, led by Steve Turner, has recently been approved for funding by Sanofi. The group will soon start to work on this project that proposes to determine the prevalence and incidence of (i) severe asthma in children in primary care and (ii) referral to an asthma specialist.

The group has also developed a proposal on investigating ICS-step-down and cessation in asthmatic children which project is still unfunded as well as discussed about future study to investigate asthma in adolescents.

COPD WORKING GROUP

A prospective, observational multicentre trial is underway and aims to assess the prevalence of suboptimal peak inspiratory flow (PIF) in patients with COPD and to investigate the predictive value of PIF for COPD exacerbations and symptom burden. Despite the hurdles and delays due to the COVID-19 pandemic, the project partners (19 centres across 11 countries) led by Omar Usmani have recruited 415/400 patients, as per study protocol. With the successful completion of this crucial milestone, the project will now continue with patient follow-up visits, completion of data collection and preparation of first manuscript on baseline characteristics.

The group is also developing a protocol on a risk predict model (PRECISE-X) that could be used at COPD diagnosis to predict the 5-year risk of having a severe exacerbation. The study has recently been approved for funding. A new research project, a 6-month prospective observational study, has been finalised and is now seeking funding. The aim of this study is to investigate the frequency and risk factors for readmission and early exacerbation in patients discharged after an exacerbation of COPD. The study also seeks to analyse the impact of triple pharmacologic treatment focusing on its (i) efficacy in terms of prolonging the time to the next admission, (ii) lung function, symptoms and quality of life and (iii) effects on mortality and safety.

SEVERE ASTHMA AND BIOMARKERS WORKING GROUP

The group had a productive meeting last March where new and interesting research ideas have been discussed and elaborated.

DATABASES AND CODING WORKING GROUP

The TORPEDO project has been completed and results published in Medrxiv, https://www.medrxiv.org/content/10.1101/2021.10.14.21264843v1. The group is now focusing on the next phase of this study characterised by the identification of databases suitable for respiratory (pharmaco-) epidemiology and criteria/variables found in TORPEDO 1. The group is also planning to develop (i) a proposal based on to define common respiratory variables that could potentially change outcomes in patients with either COPD or asthma and (ii) a review on the methods currently adopted for extracting/mapping respiratory variables in CDM and the current issues, challenges and recommendation for best practices.

WHAT REG MEANS TO ME

The Respiratory Effectiveness Group is an organisation that Boehringer Ingelheim is very pleased to support, particularly when it comes to funding retrospective database analyses or prospective observational studies. Whilst randomised controlled trials are seen as the gold standard, we see effectiveness research as important to translate research findings into real-life, providing clinicians with the results that they are more likely to see in clinical practice. Take for example Boehringer's WISDOM trial in COPD patients, designed to provide information regarding withdrawal of ICS whilst continuing dual bronchodilation therapy. REG conducted an independent 'real-life' WISDOM trial, using a primary care database in the UK, including over double the number of patients as in the RCT. The REG study confirmed the primary finding - withdrawing ICS was not associated with an increased risk of exacerbation – but also identified a group of COPD patients (with more frequent courses of oral corticosteroids and high blood eosinophil counts) that do not benefit from ICS withdrawal. Such work is particularly valuable for the development of guidelines for clinical practice. Additionally, Boehringer Ingelheim supports activities of the REG to globally evaluate diagnostic pathways, for example in Interstitial Lung Disease (ILD) in the Post-COVID Era. This study aims to identify key characteristics, priorities, benefits and difficulties of eMDTs associated with IPF diagnosis, aiming to help maintain high standards of treatment under difficult conditions of a (post)pandemic. We see the ambitions of REG and Boehringer Ingelheim very much aligned – improving the lives of patients with respiratory disease.

RACHEL EMERSON-STADLER

on behalf of

Boehringer Ingelheim

We have been discussing the merits and pitfalls of randomized controlled trials for many years now and at the same time we have been praising the need for real-life research that would be inclusive of patients with multimorbidity and different standards of care to obtain better understanding of the pragmatic effectiveness and safety of treatment interventions. REG offers a unique opportunity in the Respiratory world to exchange clinical and scientific views with colleagues, both clinicians and researchers, who have a broad and diverse spectrum of viewpoints and allows for a fantastic exchange of ideas and organization of retrospective and prospective studies. In the area of severe asthma, the understanding of positioning and effectiveness of biologics and the role of biomarkers in this journey has been widely discussed in recent meetings., whereas in COPD the REG collaborations have improved our understanding of the concept of COPD control and inhaled corticosteroids discontinuation in real-life settings, just to name a few of the highlights that have helped me in my way of thinking and clinical practice. The involvement in REG has been a rewarding experience for me in the previous years and I am always looking forward to the constructive exchange of views in the REG Summit meetings.

KONSTANTINOS KOSTIKAS
Professor of Respiratory Medicine
Head Respiratory Medicine Department
University of Ioannina, Greece

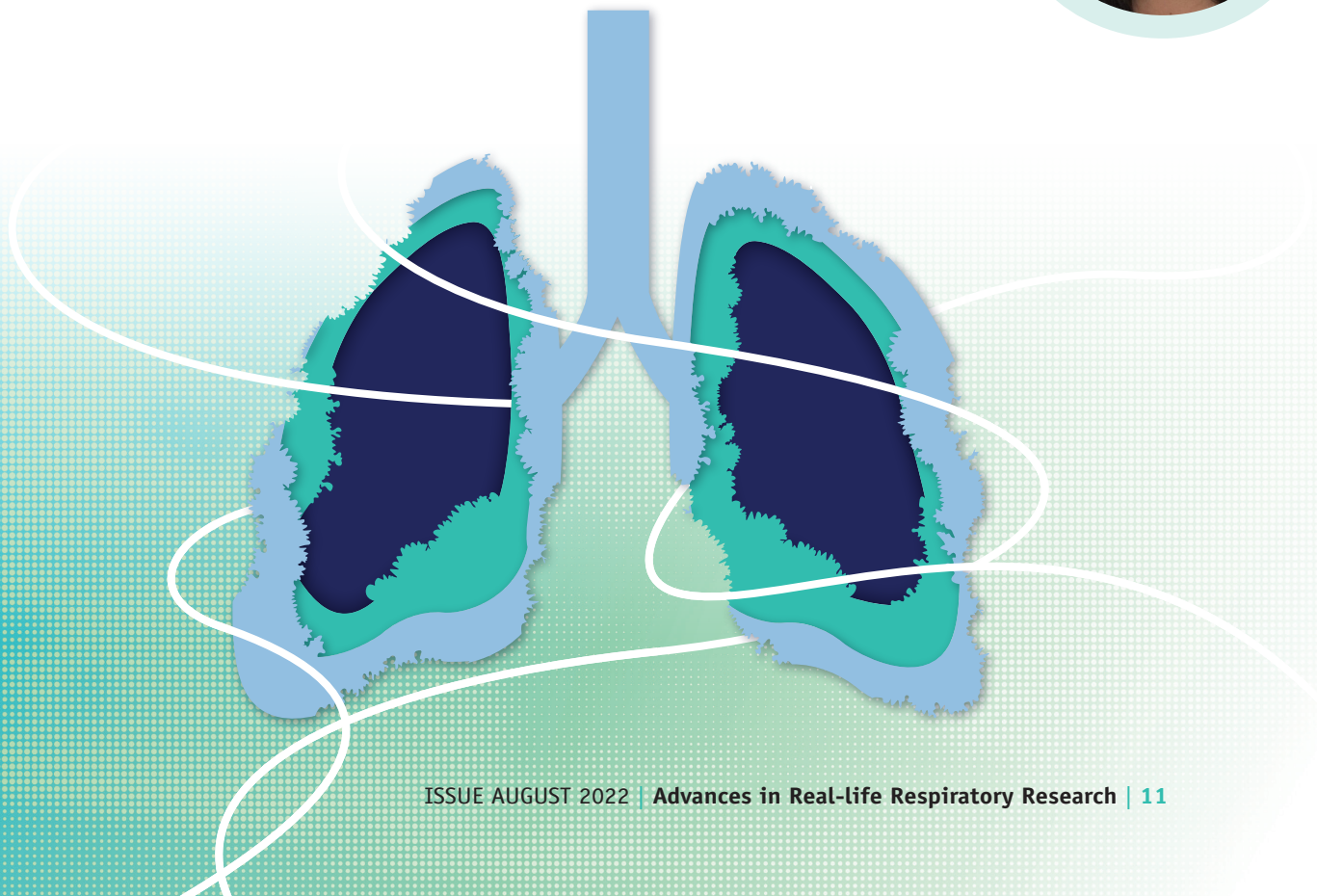
WHAT REG MEANS TO ME

The REG represents a great opportunity to promote global real-life studies, for example, in rare diseases such as interstitial lung diseases (ILD). To achieve this, we continuously establish networks with health professionals from around the world, which allows us to understand the differences and similarities between the various health care systems, an essential factor in creating effective strategies for the proposed study problems.

Since the COVID-19 pandemic, an existing need in this field has become more evident: the insufficient number of ILD specialist centres or hospitals that have a multidisciplinary committee. This has a very strong impact on the accuracy and confidence of the ILD diagnosis, as well as on the customization of the management plan and the timely initiation of treatment in accordance with current clinical practice guidelines. Therefore, projects addressing this situation are urgently needed for the clinical benefit of our ILD patients.

I would also like to add that the REG means for me teamwork, diversity, respect, active learning, and an opportunity for development in professional life. I first participated in REG meetings in 2016, at the time as an early career researcher during my ILD fellowship. It has been six years and I am very grateful for what I have learned, for having the opportunity to be the Global Principal Investigator of our current project (Global Assessment of the Diagnostic Pathway for ILDs in the Post-COVID Era) and to be the new chair of the Idiopathic Pulmonary Fibrosis (IPF)/ILD working group. Therefore, I would like to invite you to be part of the REG, which I consider a very enriching and rewarding experience.

PILAR RIVERA-ORTEGA
Chair of the IPF/ILD Working Group of REG
Clinical and Research Lead of the Interstitial Lung Disease Unit,
Respiratory Medicine Department.
Wythenshawe Hospital,
Manchester University NHS Foundation Trust
United Kingdom



REG SUMMIT 2022

The REG Summit 2022 was a tremendous success and attracted a wide audience from around the world.

The event took place as a live in-person event from 17th to 19th March. Over 100 participants from 25 countries travelled to Barcelona for the meeting. The Summit included 10 Working Group meetings, 9 exciting sessions on a wide and diverse range of key issues and topics in respiratory health, featuring talks and debates from esteemed speakers and guests. The Summit was accredited by the European Accreditation Council for Continuing Medical Education (EACCME®) with 9 European CME credits (ECMEC®s) and received accreditation by European Board of Accreditation in Pulmonology (EBAP) for 9 CME credits covering the whole program.

The Scientific Programme included sessions on:

- Covid-19 infection.
- Rhinitis and Asthma.
- Asthma in Children – Diagnosis, Monitoring, Treatment.
- COPD – Antibiotics in the prevention of chronic lung disease and exacerbations, pharmacotherapy and mortality, COPD control and how it works in practice.
- Discussions on GINA 2021 – A two track approach to asthma:" Do we need a sixth asthma biological and Triple therapy in asthma".
- New perspectives in post-covid fibrosis and other ILDs.
- Update from the ISAR Registry and research findings.
- Digital advances in respiratory medicine.
- The future of real-life research.

All sessions are available to watch on demand. For more information, go to www.regsummit2022.org

Thanks to all the speakers, session chairs and meeting participants for making it such a great meeting.

Thank you also for the support from our sponsors: Menarini and Sanofi-Regeneron.

The REG Summit will be return next year in Lisbon, Portugal from 16th – 18th March 2023.

We look forward to seeing you there!

REG SUMMIT 2022 ABSTRACTS

The meeting attracted 8 abstract submissions which were presented as posters with authors from Ireland, Portugal, Spain, Netherlands and United Kingdom.

PP01 RESULTS OF SELF-REPORTED LEVELS OF ANXIETY IN IPF PATIENTS FOR DEVELOPMENT OF A NOVEL DIGITAL COGNITIVE BEHAVIOURAL THERAPY (VP-DCBT-IPF) FOR ADDRESSING PSYCHOLOGICAL IMPACT OF THE DISEASE

Ms. Jessica Shull[1], Mr. Mikkel Walmer[1]
[1]Vicore Pharma, Stockholm, Sweden

Introduction: IPF is an incurable condition with a prognosis of 3-5 years and a deteriorating quality of life. Vicore is developing a digital Cognitive Behavioural Therapy to treat the psychological impact of living with idiopathic pulmonary fibrosis (IPF). The Vicore dCBT-IPF is a software-as-a-medical device based therapy for the reduction of anxiety associated with IPF. To ensure we start with accurate baselines, we asked the IPF population, with help from the PF Warriors patient group, about anxiety levels.

Methods: We surveyed 161 people who self-identified as having IPF through email and Google Forms, a purely online anonymous market research format. Participants were informed of the development of the Vicore dCBT-IPF, and then asked the seven questions that makeup the Generalised Anxiety Disorder 7 (GAD7) survey, which is an open-licence product of Pfizer. The GAD7 has been validated in numerous studies as a screening tool with good reliability, though it is not a diagnostic instrument. GAD7 was developed originally for Generalised Anxiety Disorder, however it is increasingly used to measure anxiety in general.

Results: 63% of respondents measured a 5 or higher on the GAD7 (range of 0-21); 60 respondents reported minimal anxiety (0-4), 51 qualified as mild (5-9), 33 measured moderate (10-14), and 17 reported severe anxiety (15-21).

Conclusion: The level of anxiety for IPF patients in 2021 appears higher than expected, perhaps due to the pandemic and other factors. Previous research had indicated 16-33% of patients had anxiety. This new data will help shape the design of the pivotal clinical study for the Vicore dCBT-IPF.

REG SUMMIT 2022 ABSTRACTS

PP02

EFFECTIVENESS OF TELEMONITORING FOR RESPIRATORY AND SYSTEMIC SYMPTOMS OF ASTHMA AND COPD: ADDING AN EDUCATIONAL COMPONENT MIGHT IMPROVE RESULTS

Dr. Esther Metting[1,2,4], Lizayra Dassen[2], Jiska Aardoom, Anke Versluis, Niels Chavannes

[1] Data Science Center in Health, University of Groningen, University Medical Center, Groningen, The Netherlands, [2] Department of Operations, Faculty of Economics and Business, University of Groningen, Groningen, The Netherlands, [3] Public Health and Primary Care, Medical Center, Leiden University, Leiden, The Netherlands, [4] National eHealth Living Lab, Medical Center, Leiden University, Leiden, The Netherlands

Background: Asthma and chronic obstructive pulmonary diseases (COPD) are highly prevalent chronic lung diseases that require ongoing self-management, which itself is often suboptimal. Therefore, telemonitoring has been used to help patients measure their symptoms, share data with healthcare providers and receive education and feedback to improve disease management.

Method: We conducted a narrative review of recent evidence comparing the effectiveness of care as usual with telemonitoring for symptoms (respira-tory and systemic) of both asthma and COPD. The disease-related outcomes of interest are exacerbations, hospitalizations, HR-QoL and limitations in daily life. Information re-garding implementation and feasibility is also assessed.

Results: Of the thirteen identified studies, eleven focused on COPD and two focused on asthma. All studies were reviewed, and effects were compared between intervention and care as usual groups. Of the study interventions, seven showed a positive outcome on at least one outcome measure, and six had no significant results on any of the outcome measures. All of the interventions with a positive outcome included an educational component, while only one of the six interventions without positive outcomes included an educational component.

Conclusion: Telemonitoring is effective, feasible and safe compared to care as usual for patients with COPD. There was an insufficient number of studies to draw conclusions regarding asthma telemonitoring. Telemonitoring interventions seem more effective if they included an educational component regarding different aspects of self-management. There is a lack of research on the behavioral and process factors related to telemonitoring.

Keywords: Telemonitoring; telehealth; telemedicine; asthma; COPD; respiratory symptoms; monitoring; eHealth; disease management

REG SUMMIT 2022 ABSTRACTS

PP03

USEFULNESS OF THE CONUT INDEX UPON HOSPITAL ADMISSION AS A POTENTIAL PROGNOSTIC INDICATOR OF COVID-19 HEALTH OUTCOMES

Prof. Joan B Soriano[1,2,3], Dr Adrian Bengelloun[1], Prof Julio Ancochea[1,2,3]

[1] Hospital de La Princesa, Madrid, Spain, [2] Facultad de Medicina, Universidad Autónoma de Madrid, Madrid, Spain, [3] Centro de Investigación en Red de Enfermedades Respiratorias (CIBERES), Instituto de Salud Carlos III (ISCIII), Madrid, Spain

Background: In-hospital mortality in patients with Coronavirus disease 2019 (COVID-19) is high. Simple prognostic indices are needed to identify patients at high-risk of COVID-19 health outcomes. We aimed to determine the usefulness of the CONtrolling NUTritional status (CONUT) index as a potential prognostic indicator of mortality in COVID-19 patients upon hospital admission.

Methods: Our study design is of a retrospective observational study in a large cohort of COVID-19 patients. In addition to descriptive statistics, a Kaplan-Meier mortality analysis and a Cox regression were performed, as well as receiver operating curve (ROC).

Results: From February 5, 2020 to January 21, 2021, there was a total of 2968 admissions for COVID-19 at our hospital, corresponding to 2844 patients. Overall, baseline (within 4 days of admission) CONUT index could be scored for 1627 (57.2%) patients. Patients' age was 67.3 ± 16.5 years and 44.9% were women. The CONUT severity distribution was: 194 (11.9%) normal (0–1); 769 (47.2%) light (2–4); 585 (35.9%) moderate (5–8); and 79 (4.9%) severe (9–12). Mortality 30 days after admission was 3.1% in patients with normal risk CONUT, 9.0% light, 22.7% moderate, and 40.5% in those with severe CONUT ($P < 0.05$). An increased risk of death associated with a greater baseline CONUT stage was sustained in a multivariable Cox regression model ($P < 0.05$). An increasing baseline CONUT stage was associated with a longer duration of admission, a greater requirement for the use of non-invasive and invasive mechanical ventilation (IMV), and other clinical outcomes (all $P < 0.05$). The ROC of CONUT for mortality had an area under the curve (AUC) and 95% confidence interval (CI) of 0.711 (0.676–0746).

Conclusion: The CONUT index upon admission is potentially a reliable and independent prognostic indicator of mortality and length of hospitalization in COVID-19 patients.

REG SUMMIT 2022 ABSTRACTS

PP04

BRONCHOALVEOLAR LAVAGE FINDINGS IN PATIENTS WITH CONFIRMED POST COVID-19 PULMONARY FIBROSIS

Dr. Stefan Cristian Stanel[1,2], Dr. Laurence Pearmain[1,3], Dr. David J F Smith[4], Dr. John F Blaikley[1,2], Dr. Nazia Chaudhuri[1,5], Dr. Pilar Rivera-Ortega[1]

[1] North West Lung Centre, Wythenshawe Hospital, Manchester University NHS Foundation Trust, Manchester, UK, [2] Faculty of Biology, Medicine and Health, University of Manchester, Manchester, UK, [3] Wellcome Centre for Cell-Matrix Research, Faculty of Biology, Medicine and Health and Manchester Academic Health Science Centre, University of Manchester, Manchester, UK, [4] National Heart and Lung Institute, Imperial College London, London, UK, [5] Division of Infection, Immunity and Respiratory Medicine, School of Biological Sciences, Faculty of Biology, Medicine and Health, Manchester Academic Health Science Centre, University of Manchester, Manchester, UK

Introduction: One potential complication of COVID-19 is the development of fibrotic interstitial lung disease (ILD). Given the large number of SARS-CoV-2 infections and long-term implications of pulmonary fibrosis, characterization of the post-COVID-19 ILD phenotype is urgently required. There have been reports of bronchoalveolar lavage (BAL) findings in acute COVID-19, but long-term BAL data has not yet been published.

Methods: Real-world findings from a series of 13 patients referred to our ILD specialist centre. All patients required hospitalisation for COVID-19 pneumonitis (April 2020 to August 2021), without prior history of ILD. Patients underwent clinical evaluation, updated high-resolution chest CT (first CT available at a median of 99 days after COVID-19, range 11-344), autoimmune screening, avian/fungal/farmer precipitins, lung function, multi-disciplinary team (MDT) discussion and BAL for differential cell count (DCC) reported by an ILD pathologist. All patients had confirmed post COVID-19 pulmonary fibrosis after their ILD review. Seven patients (with 11 CT scans in total) also had automated CT quantification analysis (Imbio, USA).

Results: All patients were male, median age 60 years (range 47-83). Clinical features are presented in Table 1. Five patients had early BAL (up to 6 months after COVID-19; median 160 days, range 99-184) and eight, late (8-15 months after COVID-19; median 357 days, range 239-463). Most patients (11 of 13) had mildly elevated neutrophils (>3%) on BAL DCC and three had high lymphocytes (>15%) (Figure 1). Timing of BAL did not seem to influence DCC. All BALs had negative microbiology reports. CT quantification analysis identified fibrosis in 9 of 10 CT scans where complete analysis could be performed, including lung density analysis plus (LDA+) and lung texture analysis (LTA). Another CT scan only had LDA+ which also suggested fibrosis.

Discussion: This report presents long-term BAL findings in COVID-19 patients who developed pulmonary fibrosis. Within the limitations of a small case series from a single tertiary centre, it is however notable that most patients only had mildly raised neutrophils on BAL DCC, despite all CT scans showing persistent inflammatory changes (i.e. ground glass opacity) in addition to fibrotic abnormalities. This suggests that anti-inflammatory treatment (i.e. corticosteroids) may not be required long-term unless there is objective BAL DCC evidence of high lymphocytes. Should clinical validation be achieved, automated quantitative CT analysis could be a useful screening tool for COVID-19 pulmonary fibrosis where access to

REG SUMMIT 2022 ABSTRACTS

specialist ILD Radiology opinion is limited.

Table 1. Clinical characteristics of patients who underwent bronchoalveolar lavage (BAL).

Patient number	Smoking status	Long term corticosteroid treatment	Intensive care admission	History of chronic respiratory disease	Rheumatological or autoimmune features	Pulmonary function test (nearest to BAL)					
						FEV1 (L)	FEV1 (% predicted)	FVC (L)	FVC (% predicted)	DLCO mmol/(min*kPa)	DLCO (% predicted)
1	Former	No	No	No	Yes	2.55	87	2.92	80	4.33	50
2	Former	No	No	No	No	4.21	103	5.03	94	N/A**	73**
3	Never	Yes*	Yes	Yes	No	2.2	60	2.51	54	5.57	60
4	Former	No	No	Yes	No	2.62	86	3.51	90	7.37	93
5	Former	Yes*	No	No	Yes	2.02	77	2.32	69	3.06	41
6	Never	Yes*	No	No	No	3.14	116	3.58	103	4.34	52
7	Never	No	Yes	No	No	2.65	70	3.29	69	7.19	71
8	Never	No	No	Yes	Yes	2.15	68	2.83	71	4.43	51
9	Former	Yes*	No	Yes	No	2.53	88	3.29	86	3.68	46
10	Former	No	Yes	No	No	2.87	77	3.47	72	7.63	80
11	Former	No	No	No	No	2.3	86	3.34	91	5.45	70
12	Former	No	Yes	No	No	2.85	82	3.53	80	N/A***	N/A***
13	Never	Yes*	Yes	No	No	2.64	85	3.06	76	3.69	45

*Oral Prednisolone maximum 10 mg daily at the time of BAL
**Only DLCO as % predicted available
***DLCO not performed

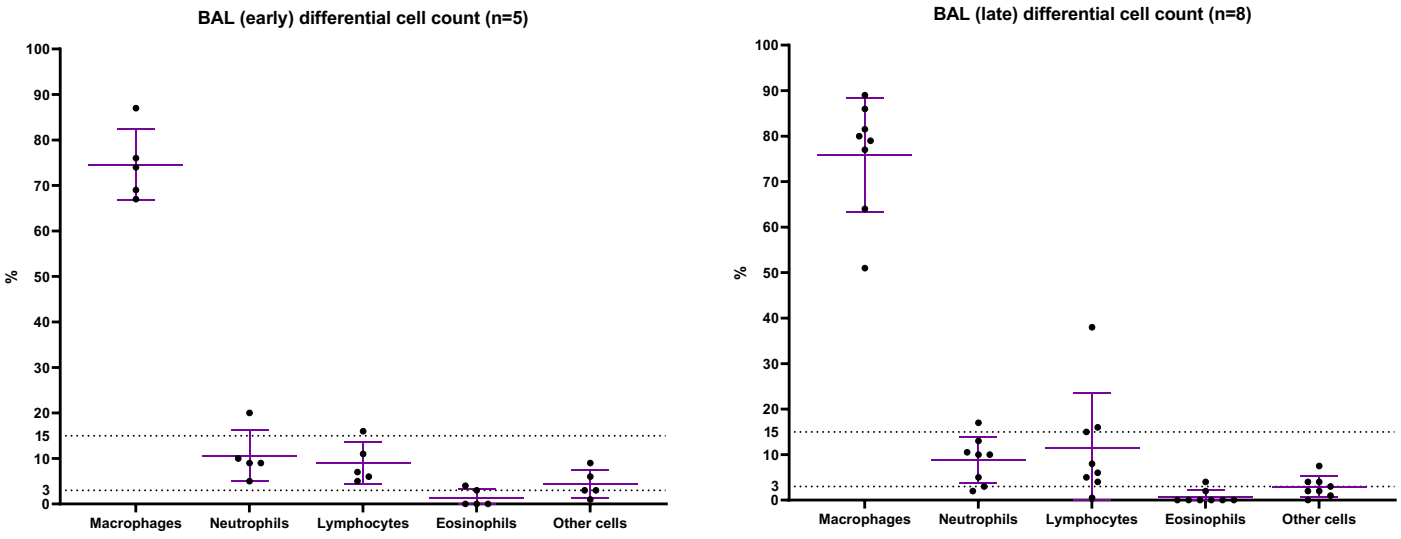


Figure 1. Bronchoalveolar lavage differential cell count results (early and late) - mean (SD).

REG SUMMIT 2022 ABSTRACTS

PP05 EFFECTIVE DELIVERY OF AEROSOLISED BUDESONIDE AND ALBUTEROL TO SIMULATED PAEDIATRIC PATIENTS

Dr. Elena Fernandez Fernandez[1], K Hurney[2], Barry Murphy[2], Dr. Marc Mac Giolla Eain[2], Dr. Ronan MacLoughlin[2]

[1] Medical Affairs, Aerogen Ltd., Ireland, [2] R&D, Science and Emerging Technologies, Aerogen Ltd., Ireland

Biography: All authors are Aerogen Ltd. Employees

Introduction: Aerosol administration of steroids and bronchodilators is commonly prescribed to children suffering respiratory illnesses. However, aerosol delivery to this patient cohort is complicated due to their anatomical and physiological characteristics. Factors influencing the amount delivered to the lung include device type and drug/formulation characteristics. The aim of this study was to compare the delivery of aerosolised Budesonide and Albuterol with and without supplemental oxygen in a simulated paediatric model.

Materials & Methods: 2 mL of Budesonide (Pulmicort 0.5mg/2mL, AstraZeneca, UK) and Albuterol (Ventolin 2.5mg/2.5mL, GlaxoSmithKline, Ireland) were aerosolised with a Vibrating Mesh Nebuliser (VMN) (Aerogen Solo, Aerogen, Ireland) in combination with an aerosol chamber (Aerogen Ultra). The nebulised therapeutics were delivered via a mouthpiece to an anatomically correct paediatric 5-year-old head model. A breathing simulator (ASL 5000, Ingmar Medical, USA) delivered a paediatric breathing pattern (Vt 155 mL, 25 BPM, I:E 1:2). Supplemental gas flow rates through the aerosol chamber of 0 & 2 LPM were assessed. The mass of drug deposited on a filter (Respirgard 303, Vyaire, USA) at the level of trachea was determined using UV spectrophotometry (241 nm for Budesonide, 276 nm for Albuterol). Results are presented as a percentage of the nominal dose placed in the nebuliser medication cup. Testing was completed independently at n = 5.

Results: Results of this study are presented in the below table. Significance was considered at $p \leq 0.05$.

Table 1: Average ± SD Tracheal Dose (%)

Discussion & Conclusion: This study indicates that the type of drug and the addition of supplemental gas flow impacts aerosol drug delivery. The addition of supplemental gas flow of 2 LPM increased aerosol drug delivery across both drugs with a statistically significant difference noted for Albuterol but not for Budesonide. Also, at 2 LPM, there was significantly greater Albuterol delivered in comparison to Budesonide. However, this is dependent on the nebulised therapeutic (Budesonide, $p = 0.442$) and its physiochemical properties (Hu et al. 2020). This study demonstrates that the VMN, with an aerosol chamber and mouthpiece, can effectively deliver Budesonide and Albuterol, used in treatment of paediatric patients with respiratory illness.

References: Hu, J. et al. 2020. DOI: 10.1016/j.jddst.2019.101353.

Table 1: Average ± SD Tracheal Dose (%).

	Gas Flow Rate		
Drug	**0 LPM**	**2 LPM**	**P-Value**
Budesonide	18.19 ± 2.72	19.35 ± 1.67	0.442
Albuterol	17.25 ± 1.36	24.29 ± 1.73	0.000
P-Value	0.507	0.002	

REG SUMMIT 2022 ABSTRACTS

PP06

CARATM - A MHEALTH TOOL FOR PROS COLLECTION IN REAL-WORLD INTEROPERABILITY WITH THE PORTUGUESE SEVERE ASTHMA REGISTRY

Prof. Ana Sá-Sousa[1], Prof. Cristina Jácome[1], Dr. Catarina João[1], Dr. Carlos Amaral[2], Dr. Filipa Bernardo[2], Dr. José Valente[1,3], Prof. Rute Almeida[1], Prof. Ana M Pereira[1], Dr. Mariana Pereira[3], Dr. Magna Alves-Correia[1,3], Prof. Ana M Ferreira[1], Dr. Pedro Marques[1], Prof. João Fonseca[1,3]

[1] Centro de Investigação em Tecnologias e Serviços de Saúde (CINTESIS), Faculdade de Medicina, Universidade do Porto (FMUP), Porto, Portugal, [2] AstraZeneca, , Portugal, [3] Medicina, Educação, Investigação, Desenvolvimento e Avaliação (MEDIDA), , Portugal

Biography: Filipa Bernardo and Carlos Amaral are employees of AstraZeneca Portugal.

Introduction: Electronic sharing of information between patients and healthcare professionals using interoperable digital technologies can effectively engage patients on the self-management of their disease and improve health outcomes. For the purpose of improving asthma care and characterising the disease, we developed the CARATm, a health mobile app for patients with difficult to control/severe asthma, which is interoperable with the Portuguese Severe asthma Registry (asmagrave.pt). This work introduces the CARATm app and explores patient's acceptability of the tool.

Methods: CARATm (Características Auto-Reportadas de Asma em Tecnologias móveis) is a free health mobile app, available on iOS and Android, for patients with difficult to control/severe asthma. The app was developed to collect self-reported clinical data, including asthma symptoms, medication use and side effects, exacerbations and absenteeism. CARATm seeks to be used with severe asthma registries and within clinical research studies. Through data integration in the Portuguese Severe Asthma Registry it helps the physician that only needs to confirm the data already in the registry. The acceptability of the app prototype version was tested during the pilot of the EPI-ASTHMA study (NCT05169619). Patients were invited to use the app for 3 months, after that, a phone call interview to gather patient´s feedback was made.

Results: A total of 61 patients with asthma (53±17 years, 64% female) were invited to use the app. Twenty-six (44±14 years, 58% female) accepted to install the app, of whom seven completed the installation. After three months, three patients stated to continue to use the app, five would recommend the app to other patients and four reported being willing to include the app in their daily routine. Patients helped to identify aspects to improve in future app versions, namely the complexity of the installation process and issues with medication reminders.

Conclusion: The patient's feedback provided insight into usage, benefits and challenges of self-monitoring their asthma through the app. Understanding the range of patients' experiences and expectations will inform a better design of the CARATm app to encourage persistence in self-monitoring in the future. The data sharing features of CARATm enables its integration with asthma registries and clinical research.

REG SUMMIT 2022 ABSTRACTS

PP07

QUANTITATIVE CT ANALYSIS AS A POTENTIAL CLINICAL TOOL IN POST COVID-19 RADIOLOGICAL FOLLOW-UP: AN EXPLORATORY STUDY

Dr Laurence Pearmain[1,2], Dr Stefan C Stanel[1], Dr Nazia Chaudhuri[1,3], Dr Pilar Rivera Ortega[1]

[1] North West Lung Centre, Wythenshawe Hospital, Manchester University NHS Foundation Trust, Manchester, United Kingdom, [2] Wellcome Centre for Cell-Matrix Research, Faculty of Biology, Medicine and Health and Manchester Academic Health Science Centre, University of Manchester, Manchester, United Kingdom, [3] Division of Infection, Immunity and Respiratory Medicine, School of Biological Sciences, Faculty of Biology, Medicine and Health, Manchester Academic Health Science Centre, University of Manchester and Manchester University NHS Foundation Trust, Manchester, United Kingdom

Introduction: The consequences of post-COVID-19 radiological abnormalities are not well defined. Conventional radiology reporting fails to explain a significant proportion of breathless patients. Identifying patients with post COVID-19 pulmonary fibrosis at an early stage is essential. Quantitative, automated, CT analysis software has already been shown to have great promise in diagnosing COVID-19 pneumonitis and predicting acute severity. Quantitative analysis CT software hasn't been studied during COVID-19 convalescence, although it has predictive value in progressive fibrotic lung disease. This study aims to describe quantitative CT analysis findings in patients within 6 months after COVID-19 infection and to consider their significance for symptoms and lung physiology.

Methods: Patients with COVID-19 pneumonitis between March and May 2020 were recruited. CT scans performed as part of routine COVID follow-up care were reported by 2 senior radiologists and were analysed by CALIPER lung texture analysis (LTA) and lung densitometry analysis plus (LDA+) software (IMBIO, USA). Clinical and functional data were collected. Newly diagnosed patients with idiopathic pulmonary fibrosis (IPF) were recruited as positive controls.

Results: We included 10 symptomatic post COVID-19 patients, 1 asymptomatic patient with normal radiology (negative control) and 5 newly diagnosed IPF patients (positive controls). Follow-up time was 143 (+/- 43.8) days. COVID-19 convalescent patients had an even gender split (male/female=6/5), mean age 58.1 years (+/-7.9) and a variety of acute severities: mild n=3, moderate n=2, severe n=6. Comorbidities: 5/10 cardiac, 3/10 respiratory, 2/10 diabetes, BMI=30.8Kg/m2. LTA quantitative CT analysis showed a high proportion of symptomatic convalescent patients with ground glass and reticular changes (0.7 and 0.8 respectively) but a low proportion with honeycombing (0.1). These proportions were lower than in IPF patients, whilst the asymptomatic convalescent patient had no abnormalities detected (figure 1a). Comparison with conventional radiology reporting showed LTA detected radiological abnormalities in 6/6 of patients with abnormal CT scans (figure 1b). LTA and LDA both demonstrated a high proportion of hyperlucency in patients with unexplained symptoms (SOB 0.67 and fatigue 1.0, both n=3, figure 1 c, d). Lung function demonstrated mildly reduced DLCO and normal KCO in both these groups with normal spirometry.

Conclusion: Both LTA and LDA+ show promise as clinical tools in post-COVID radiological follow up and support previous work using CALIPER technology in IPF. Larger studies need to repeat these findings and optimise LTA and LDA+ threshold values and diagnostic algorithms for post COVID-19 lung injury.

REG SUMMIT 2022 ABSTRACTS

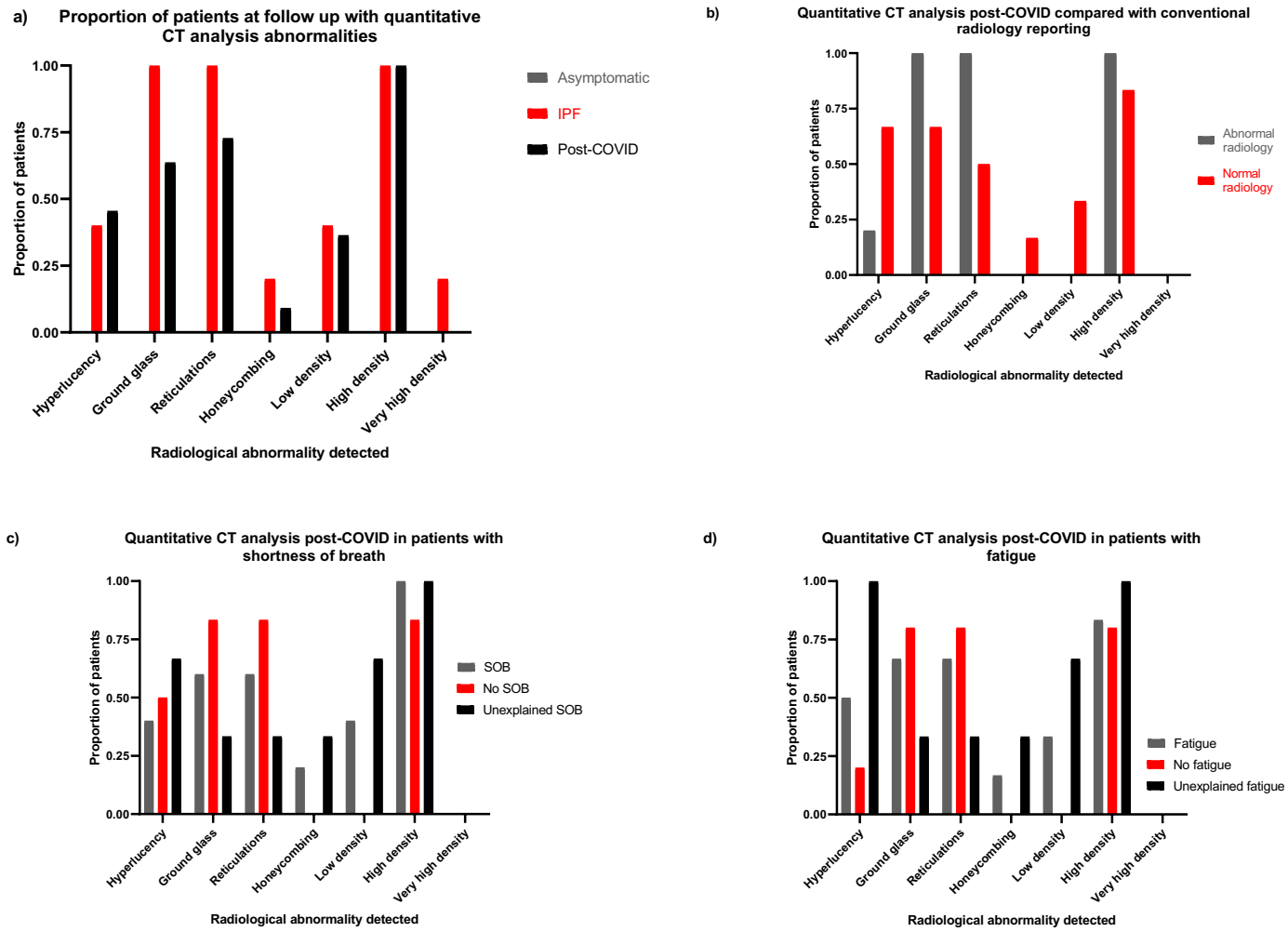


Figure 1: Quantitative CT analysis of a) asymptomatic (n=1) and symptomatic post-COVID-19 patients (n=10) and IPF (n=5), b) post-COVID-19 patients with normal (n=6) and abnormal conventional CT reports (n=5), c) post-COVID-19 patients with (n=5) and without shortness of breath (n=5), d) post-COVID-19 patients with (n=6) and without fatigue (n=4). Unexplained means no conventional radiological abnormality or explanatory co-morbidity. Results represent both lung texture analysis and lung densitometry plus analysis results combined.

REG SUMMIT 2022 ABSTRACTS

Study groups		FEV1	FEV1 (%)	FVC	FVC (%)	FEV1: FVC	DLCO	DLCO (%)	KCO (%)	TLC (%)
Asymptomatic post-COVID-19	(n=1)	2.21	78.7	2.68	76.1	0.82	5.79	80.6	108.7	75.8
Idiopathic Pulmonary fibrosis	All (n=5)	2.51	91.2	3.33	92.2	0.75	4.53	60	89.8	-
Symptomatic post-COVID-19	All (n=10)	2.69	90.9	3.46	92.3	0.80	6.46	83.0	99.8	85.5
	Abnormal radiology (n=5)	2.78	91.3	3.49	92.2	0.83	6.33	81.5	97.8	81.8
	Normal radiology (n=6)	2.61	90.6	3.44	92.4	0.77	6.56	84.3	101.5	88.5
	Shortness of breath (n=5)	2.32	76.2	3.18	80.3	0.62	5.47	67.9	79.7	75.9
	No shortness of breath (n=5)	2.61	90.5	3.17	88.9	0.85	6.37	84.3	103.4	78.5
	Fatigue (n=6)	2.52	95.8	3.32	97.6	0.78	6.31	85.3	100.3	89.4
	No fatigue (n=4)	2.95	83.2	3.82	86.9	0.79	6.99	81.8	100.3	82.3
	Unexplained shortness of breath (n=3)	2.60	95.3	3.52	99.1	0.75	6.52	85.3	99.7	92.1
	Unexplained fatigue (n=3)	2.52	98.7	3.21	97.4	0.79	5.93	82.9	98.1	89.9

Table 1: Lung function tests stratified by quantitative CT analysis groups.

REG SUMMIT 2022 ABSTRACTS

PP08

HAS MORTALITY FROM COPD DECREASED IN SPAIN IN THE LAST TWO DECADES?

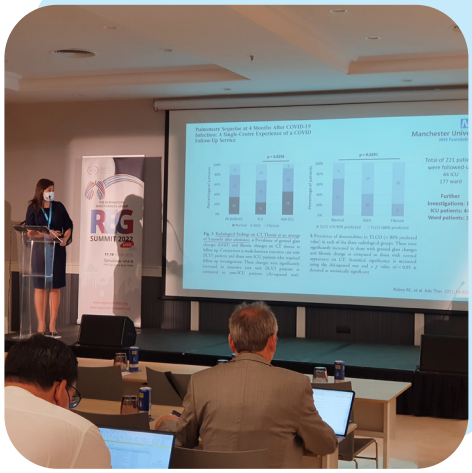
Dr. Gema Ramirez[1], Dr. Ana Quesada- Quesada[1], Dr. Antonio Menéndez- Lobo[1], Dr. Alejandro Romero- Linares[1], Dr. Cristian Rodriguez Rivas[1], Dr. Bernardino Alcázar-Navarrete[1,2]

[1] Hospital Universitario Virgen De Las Nieves, Granada, Spain, [2] Medicine Department. Universidad de Granada, Granada, Spain

Introduction: The consequences of post-COVID-19 radiological abnormalities are not well defined. Conventional radiology reporting fails to explain a significant proportion of breathless patients. Identifying patients with post COVID-19 pulmonary fibrosis at an early stage is essential. Quantitative, automated, CT analysis software has already been shown to have great promise in diagnosing COVID-19 pneumonitis and predicting acute severity. Quantitative analysis CT software hasn't been studied during COVID-19 convalescence, although it has predictive value in progressive fibrotic lung disease. This study aims to describe quantitative CT analysis findings in patients within 6 months after COVID-19 infection and to consider their significance for symptoms and lung physiology.

Methods: Patients with COVID-19 pneumonitis between March and May 2020 were recruited. CT scans performed as part of routine COVID follow-up care were reported by 2 senior radiologists and were analysed by CALIPER lung texture analysis (LTA) and lung densitometry analysis plus (LDA+) software (IMBIO, USA). Clinical and functional data were collected. Newly diagnosed patients with idiopathic pulmonary fibrosis (IPF) were recruited as positive controls.

Results: We included 10 symptomatic post COVID-19 patients, 1 asymptomatic patient with normal radiology (negative control) and 5 newly diagnosed IPF patients (positive controls). Follow-up time was 143 (+/- 43.8) days. COVID-19 convalescent patients had an even gender split (male/female=6/5), mean age 58.1 years (+/-7.9) and a variety of acute severities: mild n=3, moderate n=2, severe n=6. Comorbidities: 5/10 cardiac, 3/10 respiratory, 2/10 diabetes, BMI=30.8Kg/m2. LTA quantitative CT analysis showed a high proportion of symptomatic convalescent patients with ground glass and reticular changes (0.7 and 0.8 respectively) but a low proportion with honeycombing (0.1). These proportions were lower than in IPF patients, whilst the asymptomatic convalescent patient had no abnormalities detected (figure 1a). Comparison with conventional radiology reporting showed LTA detected radiological abnormalities in 6/6 of patients with abnormal CT scans (figure 1b). LTA and LDA both demonstrated a high proportion of hyperlucency in patients with unexplained symptoms (SOB 0.67 and fatigue 1.0, both n=3, figure 1 c, d). Lung function demonstrated mildly reduced DLCO and normal KCO in both these groups with normal spirometry.



Conclusion: Both LTA and LDA+ show promise as clinical tools in post-COVID radiological follow up and support previous work using CALIPER technology in IPF. Larger studies need to repeat these findings and optimise LTA and LDA+ threshold values and diagnostic algorithms for post COVID-19 lung injury.

INTERNATIONAL SEVERE ASTHMA REGISTRY

ISAR Country Updates

The **International Severe Asthma Registry** (ISAR) marches on into its 5th year with data from 14,266 severe asthma patients, including 12,732 patients with prospective data, from our 26 collaborating countries (as of 21 July 2022). We're pleased to confirm that in early 2022 we surpassed our goal to reach 10,000 prospective patients from our original core countries, despite the COVID-19 pandemic! We would like to thank all of our collaborating countries for their valuable contributions that has made this achievement possible. It is ISAR's future goal to have prospective data from 13,150 patients by December 2023.

ISAR Publications and Abstracts in 2022

We are pleased to share that 2 ISAR studies were published so far this year, with 2 abstracts presented at ATS 2022. 3 abstracts (GLITTER, EMBER and IGNITE) have been accepted as poster presentations at ERS 2022.

ISAR Publications

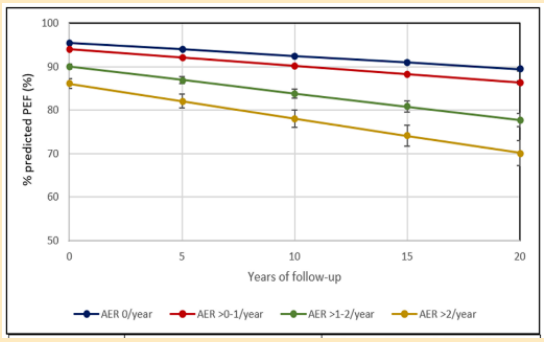
Porsbjerg C, et al.
"Biologics in Severe Asthma: Role of Real-World Evidence from Registries"
European Respiratory Review, 2022

Aim: To summarise the current research on real-world evidence around the use of biologics in severe asthma.
Conclusions: Registries such as ISAR provide "real-life" evidence for the effectiveness of biologics, enabling severe asthma physicians to tailor the right drugs to the right patients.
Click **here** to read the full article.

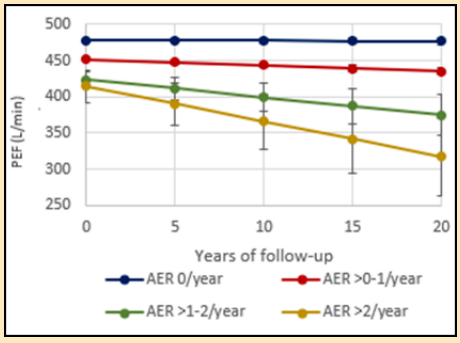
Soremekun S, et al.
"Asthma Exacerbations are Associated with a decline in Lung Function: A Longitudinal Population-Based Study" *Thorax 2022; in press*

Aim: To test the hypothesis that exacerbation burden is associated with age-specific, long-term lung function trajectory in asthma.
Conclusions: Asthma exacerbations are associated with faster lung function decline, which was more pronounced in younger patients.
Click **here** to read the REG 2021 Abstract, and **here** for the REG 2021 e-Poster.

% predicted PEF in overall population (n=109,182)



% predicted PEF in patients aged 18-24 years (n=16,482)



AER = Annual exacerbation rate; PEF = Peak expiratory flow

ATS2022

Location: San Francisco | Date: 13 – 18 May 2022

Abstracts and Posters

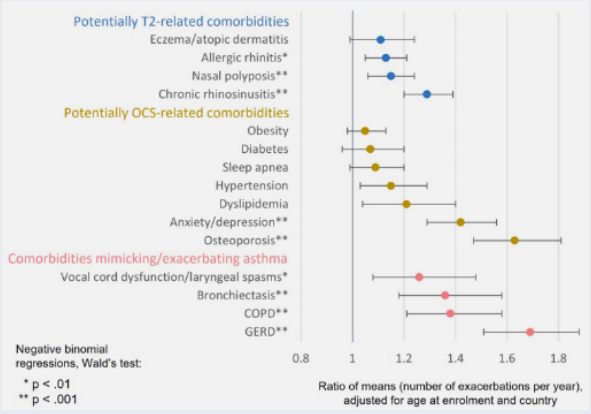
Prevalence of comorbidities in adults with severe asthma: results from the International Severe Asthma Registry (PRISM),
Scelo G, et al..

Aim: To understand the pattern of comorbidities in adults with severe asthma and investigate their association with asthma-related outcomes.

Conclusions:

- Two-thirds of patients have any potentially OCS-related comorbidity.
- Comorbidities are associated with higher exacerbation rates.

Click **here** to read the full abstract, and **here** for the e-Poster.



Association between comorbidities and exacerbation rates at enrolment

AER = Annual exacerbation rate; PEF = Peak expiratory flow

Impact of initiating biologics in patients with severe asthma and on long-term oral corticosteroids or rescue steroids (GLITTER)
Chen W, et al.

Aim: To assess the real-world comparative effectiveness of initiation versus non-initiation of biologics in severe asthma patients.

Conclusions:

- Severe asthma services have reduced OCS use and improved asthma control in patients with high OCS exposure, irrespective of biologic initiation. Reductions in OCS use and exacerbations were greater in biologic initiators vs non-biologic initiators.
- There remains an unmet need to decrease OCS use in patients; 50% of biologic initiators and 78% of non-biologic initiators did not achieve long-term OCS daily dose <5mg.

Click **here** to read the full abstract, and **here** for the e-Poster.

ISAR in the spotlight

Asthma Phenotyping in Primary Care: Applying the International Severe Asthma Registry Eosinophil Phenotype Algorithm Across All Asthma Severities
J Allergy Clin Immunol Pract 2021

The ISAR project on asthma phenotyping in primary care, which applies the ISAR eosinophil phenotype algorithm across all asthma severities, is highlighted in the **Latest Research** section of the American Academy of Allergy, Asthma & Immunology (AAAAI) website.

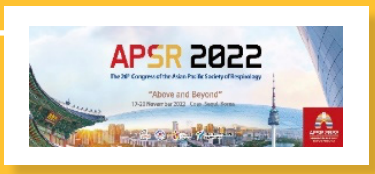
Click **here** for the slideshare, and **here** to read the full article.

CHEST journal achievement
Eosinophilic and Noneosinophilic Asthma, An Expert Consensus Framework to Characterize Phenotypes in a Global Real-Life Severe Asthma Cohort, CHEST 2021

OPRI is excited to share a milestone in asthma phenotype recognition! With nearly 7000 downloads as of 31 December 2021, this ISAR publication was the TOP downloaded paper on **journal.chestnet.org** and ScienceDirect in 2021!
Eosinophilic and Noneosinophilic Asthma PlumX Metrics
Click **here** for the slideshare, and **here** to read the full article.

Upcoming ISAR Events 2022

European Respiratory Society (ERS) International Conference, Barcelona, Spain
04 - 06 September 2022
EVENTS:
- ISAR GLITTER, IGNITE and EMBER posters to be presented at ERS 2022
- ISAR Research Dinner on 5th September 2022 for ISC members; calendar invitations have been sent
- ISAR Working Group sessions on EMBER/IGNITE, FULL BEAM and Quality Improvement (dates TBC)
- Please contact us at **isarevents@opri.sg** to register for the ISAR Working Group sessions



Asian Pacific Society of Respiratory (APSR) 2022, Coex, Seoul, Korea
17 - 20 November 2022
EVENTS:
- ISAR Abstract submitted to ASPR 2022

ISAR's Research Changes Paradigms

Key insights from ISAR's research were discussed with ISAR collaborators at REG 2022 and ATS 2022.

ISAR sets a vision for severe asthma with its mission statement
The ISAR Study Group, CHEST 2020; 157: P805-814

Severe asthma is a global problem: high steroid burden, damaged lungs, fixed airways obstruction
Wang E et al. CHEST 2020; 157:790-804

Potentially hidden severe asthma: affects up to 8% community asthma, with only ¼ of those patients managed by specialists
Ryan D et al. J Allergy Clin Immunol Pract 2021; 9:1612-23

Exacerbations drive lung function impairment in severe asthma; more pronounced in younger patients
Soremekun S et al. Thorax 2022; in press

Eosinophilic asthma is the most common phenotype, influencing asthma guidelines
Heaney LG et al. CHEST 2021;160:P814-830

Despite limited response to 1st choice biologics many patients do not switch to alternatives (SUNNIE)

Menzies-Gow AN et al. J Asthma Allergy 2022; 15:63-78

Massive variation in licensing and reimbursement criteria for biologics globally (BACS)

Porsbjerg C et al. J Allergy Clin Immunol Pract 2022;10:P1202-16

Anti-IL-5 is more effective for those eligible for both Anti-IL5 and Anti-IgE (FIRE)

Ali N et al. Presented at ERS 2021

Biologic initiation reduced steroid use. There remains an unmet need to decrease steroid use in many patients (GLITTER)

Chen WJ et al. Presented at ATS 2022

Patient from deprived areas had worse asthma outcomes; older age and minority ethnicity elevated socioeconomic deprivation

Busby, J et al. J Asthma Allergy. 202214:1375-1388

ISAR's Future Direction

The next generation of ISAR will focus on self-sustainable data collection and quality improvement initiatives.

Data to be collected during **clinical consultations** to minimise double data entry

Interactive dashboards enabling clinicians to track **longitudinal changes in patient status** at the point of care

Patient summaries that can integrate with electronic health records and be sent to primary care physicians

Why should you join ISAR?

Contribute to severe asthma research and publications

Collaborate with severe asthma experts globally

Integrate data collection with clinical care

To register interest in joining the registry as a collaborating country, please contact us **here**.

ACKNOWLEDGEMENTS

The work of REG would not be possible without the contributions from our invaluable supporters to fund innovative research projects developed by our expert Collaborators.

REG is looking to launch a number of ambitious research initiatives which offer the opportunity to impact clinical management guidelines and patient care.

We welcome any suggestions from Supporters and would be happy to discuss your ideas in more detail.

You can always get in contact with the REG team by email at
enquiries@regresearchnetwork.org,

or write to Michael Walker, REG CEO at
michael@regresearchnetwork.org

GOLD SUPPORTER

AstraZeneca

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We would also acknowledge the support of the following companies:

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SANOFI GENZYME

teva

Chiesi
People and ideas for innovation in healthcare

Kindeva
DRUG DELIVERY

REG Respiratory Effectiveness Group

THE RESPIRATORY EFFECTIVENESS GROUP

REG SUMMIT 2023

16-18 March 2023

Lisbon • PORTUGAL

Lisbon Marriott Hotel

www.regsummit2023.org

SAVE THE DATE