

Congress Interviews

Marek Jutel, President of the European Academy of Allergy and Clinical Immunology (EAACI), and Maria Jose Torres, member of the Governance Committee and of the Advisory Board of the Research and Outreach Committee, EAACI, spoke with EMJ about their roles within the society, research interests, recent publications, and what the future of allergy medicine and immunology may hold.

Featuring: Marek Jutel and Maria Jose Torres.



Marek Jutel

Head of the Department of Clinical Immunology, Wrocław Medical University, Poland; and President of the European Academy of Allergy and Clinical Immunology (EAACI)

Q1 In 2019, you were elected as President of the European Academy of Allergy and Clinical Immunology (EAACI). What has been your proudest achievement in this role so far?

This is a difficult time because of COVID-19. So, I would rather say that my greatest achievement is maintaining current operations and the mission of the EAACI, which is providing education. And, also, the exchange platform and continuing education for specialists. So, we managed to

organise the digital Congress last year, which was in June, and it was the first digital Congress of the EAACI. But, also, first in the field and we were the benchmark for the other societies dealing with similar problems in the same field similar diseases, and the next is actually the first hybrid meeting, in July 2021. So, this is for sure, the great achievement.

And the other one I would like to mention is that our *Allergy* journal increased its impact factor. It was announced a few days ago that now its impact factor is over 13, which is the highest journal in

the field. So, this is a very impressive impact. Actually, the journal is mostly the achievement of the Editor-in-Chief but actually the journal is supported by the EAACI and I, as the President, was also support, at least, and the EAACI provided financial support and the infrastructure for the for *Allergy* journal. This is a great achievement and also continuing this, the knowledge dissemination pathway.

We also launched an e-learning platform with the Continuing Medical Education points, and we also initiated the involvement of this e-learning platform to the Knowledge Hub. So, in these difficult times where it is difficult to organise physical meetings, we intend to or actually we already have achieved quite a lot to provide a platform for education and knowledge, to exchange ideas, and exchange meetings in between the congresses, which is also very innovative. And this is one of the greatest achievements.

Last but not least are our activities in the European Union (EU) that we have. We keep our interest group in the European Parliament. We have a number of European members and we are very active in this group and very much in line with what is going on in Europe. We align with the general policy of the EU as well as for the Green Planet.

There are a lot of achievements actually, not just the one, so that is great to hear.

What are the biggest challenges for the EAACI in their quest to tackle the burden of allergy in Europe and create the highest standard of practice in order to benefit patients?

So, the major challenges are, as it has been over the decades, that we have major problems with harmony, attention to patient management, and care between the different European countries. That is why we are so active at the level of the EU because this is how we can approach these countries, and through EU activities as well. And there are a number of initiatives we do that I mentioned.

And now, in more detail, there is the Europlanet Science Congress, which is within the EU's projects. Then, of course, the prevention of

allergic diseases, and the role of mobile health and telemedicine, which is also our major focus because the development of the technology opens up enormous opportunities. By using this specialist technology in mobile health, we can improve the number of patients in debt due to their health. Then what we need is also to have enough evidence to convince the politicians and health authorities, as well as have real-world evidence for the health economics and registries. So, the real challenge is to have more economic health studies showing that we can achieve a lot, not only in terms of improvement but also in terms of rationalising the finances and the way that the money is being spent for treatment by the effectiveness.

Let's say that we organised treatment management of allergic patients. We can spend the money much better and more effectively, but we need to convince other stakeholders more than ourselves. I mean physicians and their patients, but we will have to reach out to the politicians. So, for this, we need a lot of data, and this is the real challenge, and we are going to focus very much on that. So again, mobile health, economics, registries, and real-world evidence.

However, this it is still very difficult because we have to tackle the different regulations in all the EU countries. It is not always easy to convince everyone, but we have achieved a lot. I think that we did a lot, especially by being very active in publishing guidelines, position papers, and statements that are really the benchmark, and are really important; they are being read and implemented virtually. This is mostly based on the elaboration of the international guidelines and position statements of people from different European countries and over for all world.

Key opinion leaders are involved and, by this involvement, of course, we can also disseminate the guidelines very effectively and gradually. They are being implemented, but the major problem is that some are not convinced. As I said, these stakeholders' are the major problem with this harmonisation as we need to convince the politicians and the people who make the laws. So, this is actually the most difficult part in this harmonisation; it is not really the scientific work and providing scientific evidence, which is, of course, important to convince these people. But then we really need to invest a lot of effort to

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talk to them and to bring this knowledge to the people who are not specialists, but they have the good will to provide the best patient care. But they need to be effective in talking for them.

You briefly touched upon the new EAACI Guidelines on the use of biologicals for severe asthma, which was published in early 2021. What would you say is the biggest change for clinical practice and how do you think they could improve the current practice for asthma?

These are very important guidelines because these biological treatments are rapidly developing and there is increasing number of products and relatively limited experience among physicians, because they are expensive. In many cases, they are only used in some specialised centres, especially in the countries with lower incomes, even within Europe, as it is the case, for example, in Poland. So, it is important to publish these guidelines again to convince the physicians and also the payers for the wider use of them. They would work, and the most important thing in our guidelines is a specialised approach, commanding a 'by patient' approach not by the patient groups. And this is very much in line with, as I said, a pretty perfect personalised and precision medicine approach. So, we paid a lot of attention to the mechanisms and the end of types, especially to the Type 2 response, which is very important as allergic type.

Let's say that the way we should decide on what kind of treatment to use with the patients is a new approach based on phenotype and other analysis that will provide, with very good guidance, how to apply biologicals on the individual, as I said, on a personalised basis, with a background of precision medicine. Precision medicine is based on the profound in-depth knowledge of the mechanisms, which could be very individualised.

Even if the patients have similar symptoms, their mechanisms might be different and that is why biologicals are important. And the most effective way at that we are using them is with the stratified patients who would most benefit from this treatment.

Q4 One of your research interests includes using recombinant allergens in the treatment of allergic diseases. Could you tell us the current stage the research is that and how it has changed clinical practice for allergic diseases?

Common intelligence technology has been a milestone in the development of allergy in the first place with diagnostics and then treatment of the allergen sources. In other words, other than with extracts, they contain a number of allergens. However, there could be major, intermediate, or minor allergens and only by having this technology of recombinant allergens is it possible to develop the proper diagnostics. In terms of not only diagnosing, the sensitivity of the allergy to the whole extract like, for example, grass pollen, can be characterised the sensitisation spectrum.

We call for the sensitisation spectrum of the patients, based on the major allergens. We have a few major allergens (for example, grass pollen) in patients with allergies on the mycological scale. There is also this cross reactivity between these allergens. When we use this recombinant technology, we can better diagnose patients and better characterise the sensitisation spectrum. In this way, we can better use this precision medicine approach. The personalised approach is best because patients who have the same symptoms, even to the same allergens, can have a different sensitisation spectrum, and they could be and should be treated differently.

However, it is very difficult to go to the next step because the very logical approach would be to characterise the sensitisation spectrum and the patients, not going deeper into the individual allergens to extract and then match the vaccine because the way we should use it. The best thing to do is to design a vaccine, and ideally this should be an individual vaccine based on the sensitisation spectrum that would contain the main other components that are relevant to the patient's symptoms.

Also, based on this component is the result diagnostic. In detail, diagnostic is called the component or resolved diagnostics. This means we can diagnose the sensitivity to the component, which is this allergen's severity level. However, this is a very difficult step to do, as there is a problem, of course, with the of authorisation of this product. So, at the moment, we are at the stage of taking a little bit of a different approach, which is to design and develop a standardised vaccine that would contain these components that would match the majority of the patients, but not the individual patient. We are still at the stage of clinical trials and getting the authorisation for this product. At the moment, these products are not widely available on the market but it is our aim to finally replace the extracts with recombinant allergens.

Just to summarise: the problem with the extract is also that there are different sources and also different extract providers to companies. They try their best to standardise these extracts but they get these extracts from different sources, and they can differ in the content of these components of our major allergens. So, that's why there is a problem with extracts and the major challenge is to develop the real recombinant vaccines.

Q5 You currently have close to 150 international publications in your name for your research in allergic diseases and immunology. What do you believe are the current gaps in literature and what topics merit greater attention?

We need to better characterise the different endotypes of diseases. So, what is actually the mechanism, which is the background of developing of the symptoms in the patient? But the problem that we can have, for example, in a patient with asthma, is that we have to say to all patients with asthma with the same symptoms. However, it would show different endotypes of the mechanisms that lead to the symptoms are different and this is an extremely complex problem. There is a large number of endotypes. However, we will not move the field forward, especially using the biologics, if we will not further advance in the description of these endotypes.



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So, this is one of the key points. And then, of course, we are going along these lines, which I believe that the new biologics are based on this and these endotypes. This should develop further and this is an enormous opportunity to try.

At the moment, we target a selected group of patients but, ideally, we should be using biologic therapies widely as they are, potentially, much more effective than the traditional pharmacotherapies. Now, we use them mostly in asthma but less in, for example, allergic rhinitis, which is well-served with pharmacotherapies, but this should also go this way.

However, as I mentioned in the very beginning, we need more data in terms of holistic approach to our health. I mean environmental science, I mean the exposome the epigenetic influences on people with allergies.

We would like to bring the awareness to the stakeholders, to the people. First of all, to the patients and the general public and also to the politicians, saying that allergies belong to this non-community of diseases that show a lot of common pathways, for example, with even cardiac disease.

We need more research that would allow this holistic approach and a more general view of it

on a patient group with different diseases, where we will find a common ground, common pathway that would be best treated.

It is also with these genetic therapies and these biologics we would better manage the patient's condition.

Over the last year or so, you have published work investigating the effects of COVID-19. What impact has COVID-10 had on the clinical practice of allergic diseases?

Very large, I'm afraid. And it has raised a lot of questions.

Firstly, patients with allergies, especially patients with asthma, are at higher risk. With COVID-19, however, we are very lucky that it has not been shown to be more severe in individuals with allergies, especially in asthmatic patients. So, this is really good. This has not been the case with obesity metabolic diseases or diabetes. So, the good news is that patients with asthma to not show the most severe disease and do not die more frequently.

But in fact, there was an impact mostly because of the limited access to the allergy office and

we were struggling to keep going, especially if we had patients that receive an allergen specific therapy, which is a treatment that lasts for at least three years and, in some cases, even longer. The discontinuity was very important and it was not always possible to continue therapy. So, there was limited access. But I believe that after this first year that most of the allergy office is instantaneous, delivering the service at a very good level. So, I would say that the impact of COVID-19 was not extremely high in our speciality. We published a number of position papers again, where we put it clearly that, for example, the treatment with topical or a corticosteroid should be continued.

So, there was not a major problem that we had to modify the treatment of our patients, even with long-term treatments. The most important treatments were not modified or stopped except for allergen immunotherapy and biologics, which are an indication that the patient is actually sick. We have had to temporarily stop until these people recover and then we can continue.

So, we are very, very lucky to do this. The impact was not extremely high in our speciality.

With over 20 years of experience as an allergist, what was it that initially sparked your interest to pursue a career in this field and what advice would you give to an allergist starting their career now?

Now this is an extremely fascinating field because of this multidisciplinary and holistic approach to the patient. We are dealing with a large variety of diseases, starting from early diseases. So, bronchi and bronchial additives, upper respiratory tract diseases, and also dermatology and skin diseases, etc. But there is also a lot of other things like anaphylaxis, allergies to drugs, and others.

So, you need to have a large amount of knowledge. First of all, we need to combine your knowledge of different specialties, which is, in a way, very fascinating because it is good to be able to help the patients in this very holistic approach. But on the other hand, we combine this knowledge and put to the one pathway of hypersensitivity analogy and mechanisms that finally work together in the patient. So, this enables you to process this knowledge to best help the patients based on your profound

knowledge of physiology and pathology, which involves the whole body. So, this is extremely important.

The other point is that in this speciality there is still a lot of space for your own initiative, for your own way on how you will treat the patients. While we might combine the knowledge of different specialities, we have our positions, and our guidelines, you also need to be you. You should invest a lot of your intellectual input to the individual patient who might have symptoms from different organs. As I said, from the lungs to the skin, etc.

Also, there is also food allergy and so forth, so this is really a fascinating speciality compared to what some others believe. Each medical speciality is interesting, but this one is very unique because in some others you just have some procedures, but we have some guidelines, and you follow these. And, in this speciality, you still have the need to improve.

You need your intellectual input, a lot of thinking is involved, of course, because the patients have this variety of symptoms of this very complicated part of physiology. So, this is a very fascinating, and is how I started my career at academic institutions. For me, it was extremely important that allergy gave me the opportunity for a very high level of research, which is not possible in many specialities.

Here, you have a lot of immunology research, for example, and you can publish in immunology journals with a high impact factor. So, this is also the perspective of performing high level science, not only clinical science, and not on the performance clinical trials, etc. But these complicated mechanisms of disease were very, very fascinating and I got interested.

And this also bearing in mind the enormous possibilities of using the immunological techniques and immunology terminology is, I would say, leading the field in medicine nowadays. We are just developing biologics and we are very working very quickly on it. We are part of this mainstream of medicine at the moment. So, there is, say, less space for surgery while it is still important. However, you cannot develop too many techniques in surgery; we have robotics, but I bet if you want to develop and learn a lot

and also input in science then the allergy clinic is also very interesting. You can immediately apply what your scientific knowledge and scientific approach to the clinic and to individual patients.

People are startled that I work in the lab for a few hours and then I work with the patients, and I can immediately apply my basic knowledge to put the patient's care, as I said, based on this very complicated patterns, very complicated background, the types of mechanisms, and pathophysiology of these allergic diseases. So, this is extremely fascinating.

When it comes to choosing a career, it always depends very much on the country and on the possibilities that the authorities give. So this must be very individualised, based on the country because in some countries allergies are very much supported and in some countries less so.

Their career is also based on the importance of the field would say in terms of the local health care system. So, this is one point. But on the other hand, I would advise that allergy is very interesting only to people who think out of the box, who have the ability to develop their own ideas, and they can benefit a lot in the allergy field. Finally, this field is still very much open if you consider what I explained; there are a lot of things to be done in the field. So, if the people are open-minded and want to achieve something, they have huge opportunities here because there

is a lot of diagnostics and treatment options that could still be developed, and there is also the research part.

I think this is clear from the description of the mechanisms, the endotype structure is also extremely important and that there is a huge space for research and clinical development in allergy. So, for the people who want to do this, who are bright and intelligent, they can take a chance, especially also in view of very high impact journals like our *Allergy* journal, which was 13 with journals like this, they can immediately support their career with good publications if they manage to provide good research in the form of a manuscript. You can achieve a lot a lot because the field is still very much open for research and development.

Over the years that you have been practising as an allergist, how have you seen the field change in terms of advancements to the technology used?

First of all, there are new diagnostic techniques that I mentioned, which is very important. And then the biological treatments that developed were not around when I started. They just started to develop the antigen databases and mobile health technologies, so this is the system. These are the major developments that we have: large databases and mobile health. ■

