Treating rheumatoid arthritis in Latin America: current challenges and future treatment strategies

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How did your education/training lead to your specific interest in rheumatology?

This is a very interesting question. By the time I was in my graduate training at the Universidad Michoacana de San Nicolás de Hidalgo at Morelia, Michoacán Mexico, I had no formal education in rheumatology. I wanted to be a cardiologist and moved to Mexico City to have my Internal Medicine training at The Instituto Nacional de Ciencias Médicas y Biológicas "Salvador Zubirán", a leading institution in Mexico to allow me to participate in the cardiology program. However, it was at this institution that I first gained insight into rheumatology where I observed many patients with complex rheumatic diseases. I changed my mind and I decided to continue my clinical training in rheumatology under the guidance of Professor Donato Alarcón-Segovia, my mentor who I always recognize as the most influential individual in my medical education.

You are currently a member of the National Academy of Medicine. Please could you describe what this role entails?

The National Academy of Medicine is the oldest, most prestigious and prominent medical organization in Mexico. In order to be accepted as a member, strict criteria are used and all candidates need to have a combined profile in three main areas: a respected, ethical clinician, recognized by their peers in the field they are applying for; an educator with experience in either graduate or postgraduate programs; and to have research activities with publications in indexed medical journals. An original research project is presented and a local selection committee admits one or two new members in each speciality per year. Medical education, healthcare promotion and advisory activities to healthcare authorities are among the most recognized functions. The National Academy of Medicine convenes every week and a monthly publication promotes research in different areas. Being a member is one of the highest honors for a clinician, educator and researcher in Mexico.

What are the current challenges facing the treatment of rheumatoid arthritis in Latin America?

We have several big challenges in our region that can be summarized as follows:

- Lack of information and proper education in rheumatology at various important levels:

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- Society needs to be better informed and educated on the importance of rheumatic diseases, not only because of their high prevalence but its potential to produce pain, disability, reduced quality of life, decreased life expectancy and high cost to the patient and society;
- Inadequate education in medical training. All medical schools should provide a high quality education in rheumatology to emphasize the importance of rheumatoid arthritis and provide general practitioners with the tools they need to suspect, diagnose and properly refer all patients with rheumatoid arthritis;
- Healthcare authorities should be better informed that these chronic diseases must be in a list of diseases with public health relevance and act accordingly. It is amazing to see how many rheumatologists in my country work as internists or emergency care physicians since no clinical appointments have been authorized to them to practice as rheumatologists;
- There is a need to have more rheumatologists being trained to satisfy the actual and future need to treat rheumatic diseases, particularly rheumatoid arthritis. This has to be disseminated as a very attractive medical field, with great progress in the last few decades and a promising future for patients treated by well-trained clinicians. Every rheumatologist should be an advocate to motivate young and talented people to be trained in this field.

- Lack of resources and inadequate communication. Human resources and drug availability in many medical institutions are scarce. Other health professionals are not always included and integrated in patient care such as physiotherapists, psychologists, nutritionists and orthopedic surgeons. Drug availability is not optimal, although great variability exists among centers, healthcare systems and countries [1].

What were the main findings from the COPCORD study?

We recently published a very ambitious epidemiologic study using the COPCORD methodology that uses pain and disability as the main anchors to look at the prevalence of musculoskeletal disorders at a community level. We compared five different regions in Mexico and we found important differences in pain, disability, comorbidity and prevalence of rheumatic diseases in those regions. The most important findings were that pain caused by musculoskeletal disorders is highly prevalent, that rheumatoid arthritis in Yucatán is very high and living in urban areas is associated with higher pain levels [2,3]. All of these findings have prompted other research activities to gain a better understanding of risk factors and look at potential interventions. Our group is currently providing advice for similar surveys being undertaken in Argentina and Venezuela. The initiative is also moving to anthropological, genetic and clinical studies. This is particularly relevant in our original populations in Latin America.

COPCORD studies in Mexico are the largest in the world and the Colegio Mexicano de Reumatología has been the engine that moves these efforts. I like to say that every rheumatologist in Mexico knows about COPCORD and many of them want a survey in their own region. This will be a big challenge but we need to move forward to increase political and societal awareness of these findings.

Do you feel that Latin America is prepared to face rheumatic disease in the future? Which strategies do you feel would be most effective in preventing disability caused by rheumatoid arthritis in this region going forward?

I am quite familiar with rheumatologists in Latin America and I proudly say that some societies have performed a great job and provided great examples to be followed. I recognize the very well organized system in Chile. They include rheumatoid arthritis in a list of diseases that their government covers. They also include hip and knee replacements due to osteoarthritis. These examples represent how well rheumatologists and politicians in that country have worked together to identify areas that can be properly supported to help people. I also admire the organization and enthusiasm of the Colombian rheumatologists. A young and well trained, diverse medical society that is moving forward in a very special and different healthcare system. Brazilians have the largest number of rheumatologists and many of them with a PhD training program. They are a good example of investment in human resources. Other societies are dealing and working with all of the challenges that have been described. I know that Latin America as a region is not currently prepared to face rheumatic diseases in the future but we have time to take stronger and larger steps in the right direction to improve local healthcare systems. We need to set up priorities and rheumatoid arthritis should be recognized early and properly

treated independently of their country of origin. We need to invest in patient care now to avoid high costs in attending disabled individuals in the future. Society urgently needs a close and responsible interaction of all participants [4].

What are the highlights of the recent advances in recommendations developed for achieving optimal therapeutic outcomes in rheumatoid arthritis?

The 'treat rheumatoid arthritis to target' or T2T initiative has been considered to be one of the most relevant advances in the conceptual and practical management of rheumatoid arthritis [5]. It represents a multinational effort of rheumatologists and patients, that provides four points and ten recommendations to treat patients with rheumatoid arthritis. The highlights describe that this disease should be treated by a rheumatologist in close communication with the patient, who should be aware of the objectives and strategies that will be followed. The target of this treatment is remission but in some cases low disease activity is permitted. These states should be maintained to decrease suffering, structural damage and improve quality of life and social interaction. This initiative does not sell drugs or clinical instruments; it promotes a strategy that has to be actively pursued by all clinicians who treat these patients. We need to measure and register disease activity at every single visit. If the target has not been reached, the treatment needs to be reviewed and adjusted as needed. There are some examples in the literature that it really works. We need to have these recommendations in mind every time we see these patients [6].

The development of biologics has changed the treatment paradigm for rheumatoid arthritis. What do you feel will be the main areas of development in this therapeutic area in the next 10 years?

I fully agree that biologics have changed the life of many patients who did not respond to proper treatment with adequate doses and duration of methotrexate or combination therapy. Unfortunately their high cost at this time make them an impossible option for many patients in our region. We should have them available in every country. A more accessible cost is greatly needed. The future in this field will be to develop an evidence-based consensus to decide the best biologic for a particular patient given the pateint's biomarkers and genetic structure. Personalized medicine to increase efficacy and minimize toxicity seems to be a dream but there is a need to move in that direction. We also need to develop drugs with a balanced profile.

Immunogenicity in which patients are producing antibodies against the biologic is emerging as a potential problem for the future since drug efficacy is compromised. Therefore, we require better tolerated and less immunogenic drugs.

The future is offering drugs with enzymatic blockade (such as the JAK–STAT pathway) that affect multiple cytokines at the same time and have early and reversible effects in tissues overexpressing JAK or STAT. Clinical trials have been published and abstracts presented in important meetings. I am sure that we will soon see how these drugs behave in the real world if they are approved.

What are the future directions of your research?

I am currently involved in projects evaluating cardiovascular risk factors and biomarkers in patients with rheumatoid arthritis, diabetes, obesity and healthy controls. If we increase our knowledge of these complex interactions we will be better prepared to modify long-term outcomes. I am also trying to understand some commonalities between autoimmunity and cancer, collaborating with local scientists.

Financial & competing interests disclosure

The author has no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript. This includes employment, consultancies, honoraria, stock ownership or options, expert testimony, grants or patents received or pending, or royalties.

No writing assistance was utilized in the production of this manuscript.

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