Paediatric rheumatology in sub-Saharan Africa

Time to narrow the gap

This editorial will reflect on the current status of paediatric rheumatic disease (PRD) and its management in sub-Saharan Africa (SSA). We will give an overview of the spectrum of PRD and consider obstacles and challenges in the treatment of rheumatic disease, including an appraisal of the paediatric rheumatology workforce, training and research capacity in this region.

SSA is home to 390 million children. The burden of poverty, malnutrition and infectious diseases has dominated the pull on health care resources and masked the burden of non-communicable diseases. Training and health care delivery reflect a focus on major contributors to mortality. An estimated 80% of Southern Africa’s health care budget is spent on communicable diseases [1]. The HIV pandemic has made this a necessary allocation. As a result PRD is given scant attention in health care planning, budgeting and training due to a lack of expertise in the subject and a shortage of paediatric rheumatologists. This leads to suboptimal diagnosis and referral at the primary care level, which contributes to the perceived rarity and continued low profile of rheumatic diseases. In developing countries, children with rheumatic diseases suffer the additional burdens of poverty, malnutrition and infectious disease.

Studies of JIA in children of African descent are emerging. A recent review from South Africa showed a different patient demographic than other populations. Polyarticular JIA, both RF positive and negative, was more frequent than described elsewhere and these patients had higher functional disability, pain and joint limitations. Oligoarthritis, possibly as the result of underdiagnosis and referral, was the rarest subgroup. Patients tended to be diagnosed later than in other cohorts [2]. At the 2013 African League of Associations for Rheumatology congress, data from Zambia, Kenya, Cameroon and Nigeria were presented, showing similar trends.

It is known that SLE is more common among patients of African descent in western countries. Paradoxically, the little data on SLE in South Africa report fewer cases in black South Africans than South African patients of European, Asian or mixed descent [3–6]. SLE was thought not to occur in black children and the first report of a black South African child with SLE occurred in 1991 [7]. In our experience this is a reflection of unequal access to care and diagnosis, as well as a historical perception that SLE is rare in patients of African descent.

The prevalence of other rheumatic diseases such as JDM is unknown in SSA and the outcomes are also not reported. Early identification of patients and increased access to rheumatologic care is needed to ensure appropriate management and improved outcomes.

A complicating factor in the treatment of rheumatic diseases in SSA is the interplay between infectious diseases and rheumatic diseases, as well as the many rheumatic manifestations of infectious diseases. Tuberculosis (TB) is a common cause of arthritis, either as reactive Poncet’s arthritis or as direct TB monoarthritis. The described association of TB with Takayasu’s is evident in SSA, where TB is endemic. Macrophage-activation syndrome secondary to TB is increasingly recognised. The use of immunomodulatory therapy is also complex in this setting and the interplay between risk and benefit of therapy is challenging.

An estimated 330 000 children were infected with HIV in 2011 and 90% of these live in SSA [8]. HIV is associated with rheumatic manifestations such as arthritis, uveitis, sarcoidosis, vasculitis, myositis and SLE. The mechanism by which HIV induces rheumatic manifestations may help us to explore the immunological mechanisms of these disorders. Examples include the disturbance of T regulatory cells in HIV, the role of the HIV protease inhibitors in immunomodulation and the changed immune profile of children who are HIV exposed but not infected. The drive to find treatment and vaccines for HIV has resulted in Southern Africa having excellent immunology research facilities. Opportunities to elucidate the interaction between infectious and rheumatic diseases should be explored.

Africa has lagged in the biologic era. Limitations in expertise, support services, cost and potential for infective complications with biologic agents mean that there is a requirement for more affordable and accessible therapies. The international research agenda is largely driven by the needs of more developed countries and pharmaceutical companies. There is a need for research aimed at delivering sustainable solutions for patients in developing countries.

Wealth disparities within African countries are a major challenge to equitable health care delivery and are often reflected in a two-tier health care system, where the wealthy minority are able to afford superior health care services.

Paediatric rheumatology was registered as a separate speciality in South Africa in 2008 and there are currently five practicing paediatric rheumatologists in South Africa. In the United States it has been recommended that there should be at least one paediatric rheumatologist per 250 000 children [9]. By the most conservative projection, South Africa would therefore need at least 40 paediatric rheumatologists. South Africa currently has an active training unit at the University of Cape Town (UCT), with two local fellows and one from Kenya (an African Fellowship Program initiated and funded by the UCT has
enabled the training of fellows from outside South Africa. The ILAR recently funded a highly successful collaboration between South Africa and Argentina, known as the Southern Hemisphere Educational Partnership for Paediatric and Adolescent Rheumatic Diseases, which has enabled the training of three paediatricians from areas in South Africa (and three in Argentina) with no paediatric rheumatology services in basic knowledge and skills. A further extension of this programme into regional countries is envisioned. To the best of our knowledge there are virtually no other formal paediatric rheumatology training sites in SSA.

As we address the burden of infectious disease and poverty-related illness in SSA, the morbidity of PRD will emerge, with opportunities for us to contribute to the knowledge about PRD. There are unique challenges and opportunities in SSA and the time has come for the development of paediatric rheumatology services and training in this region.

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