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Travel- and immigration-related problems in rheumatology

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A B S T R A C T

Health problems are self-reported by up to 64% of travellers to the developing world. Traditionally, rheumatic symptoms are accorded little significance, but many travellers do return home with musculoskeletal complaints. The assessment of these patients is often hindered by the Western clinician's lack of familiarity with the types of infections that the patient may have encountered while travelling. Standard serological tests for autoimmune diseases can be unreliable in the setting of concomitant tropical infection, and these infections themselves can have musculoskeletal manifestations. Even in the absence of tropical infection, laboratory investigation of musculoskeletal symptoms in individuals of different ethnicities is challenging due to genetic and physiological variation. This review focusses on addressing the impact global migration has had on rheumatological clinical practice.

Introduction

Health problems are self-reported by up to 64% of travellers to the developing world [1]. Most of these problems are mild, self-limited illnesses such as diarrhoea, respiratory infections and skin

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disorders. However, up to 8% of the >50 million travellers to these regions are ill enough to seek health care either while abroad or on returning home. By contrast, rheumatic symptoms are often accorded little significance. For example, the largest contemporary experience in illness related to travel to developing countries comes from GeoSentinel, the global surveillance network of the International Society of Travel Medicine and the Centers for Disease Control and Prevention. In their 2006 report of 17,353 ill travellers from developing countries, data on rheumatological complaints were not recorded [1].

Many travellers return home with musculoskeletal symptoms with or without other accompanying complaints. The assessment of these patients is often hindered by the Western clinician's lack of familiarity with the types of infections that the patient may have encountered while travelling. Furthermore, when presentation to health-care providers is delayed, the travel history may have been forgotten by the patient. A methodical approach to the evaluation of these patients is vital, and it should include basic information about the geographic distribution of infections in the locations where the person has lived and travelled (including even brief stays and airport transfers), as well as any activities that were undertaken. The evaluation of such patients should focus on determining what infections are possible given where the patient has lived or travelled, which of these infections is more probable given the patient's clinical findings, pre-travel measures and potential exposures, as well as considering which of these infections is treatable or transmissible [1]. These considerations also apply to recent immigrants from developing countries. Even in the absence of tropical infection, laboratory investigation of musculoskeletal symptoms in individuals of different ethnicities is challenging due to genetic and physiological variation. This review focusses on addressing the impact global migration has had on rheumatological clinical practice, with particular emphasis on the musculoskeletal manifestations of common tropical infections.

Alphaviruses

Alphaviruses that cause arthritis are globally distributed mosquito-borne RNA viruses causing epidemics of polyarthritis. Infections due to alphaviruses are increasingly being reported in travellers. Among all of the viruses that can cause arthritis, the alphaviruses are unusual, because nearly all symptomatic infections in adults result in joint symptoms. There are six groups: Ross River and Barmah Forest (Australia), Igbo-Ora (Africa), Sindbis virus group (Africa, Asia and Australia), Mayaro (South America), O'nyong–nyong (central and east Africa) and chikungunya (Caribbean, Asia, Africa, Western Pacific and Mediterranean regions) [2,3]. Studies assessing the prevalence of travel-related rheumatic conditions are scarce, but in one series, the majority of returned travellers with musculoskeletal complaints presenting to a tropical medicine centre in Israel suffered with alphavirus infection [4]. Chikungunya and Ross River virus (RRV) made up the majority of cases in this study.

Most alphavirus infections are associated with the triad of fever, rash and arthritis [2]. Symptoms usually manifest after a 2–7-day incubation period, and their presentation can mimic a classical inflammatory arthropathy such as rheumatoid arthritis (RA) [3]. This diagnostic confusion can be further exacerbated by the fact that some patients with alphavirus infection have low titre positive rheumatoid factor (RF) [4].

Chikungunya

Although found throughout the tropics, chikungunya is endemic to West Africa and it causes acute febrile polyarthralgia and arthritis. The name ‘chikungunya’ is derived from a local language of Tanzania meaning ‘that which bends up’. Serosurveys of communities in parts of West Africa have identified antibodies to chikungunya virus in 35–50% of the population [5,6]. Multiple outbreaks beyond West Africa have been described. Since 2004 especially, chikungunya has spread broadly, causing massive outbreaks with explosive onset in the Indian Ocean region, India and other parts of Asia. Chikungunya had traditionally been perceived as a tropical disease until an outbreak in Italy in 2007 [6]. In addition, thousands of cases have been identified in travellers