EDITORIAL

MICROBIAL INFECTIONS IN THE TWENTY FIRST CENTURY: A CONTINUOUS CHALLENGE

Ever since the first case report of HIV infection approximately twenty years ago, enormous human and material resources have been put in place to assist in the control and management of the scourge. With an increase in number of cases of immunosuppression came an increase in the number of microbial organisms, which were previously unknown. Some, which have existed albeit at an equilibrium with the human immune system and by extension the body's defence mechanism have found their way into causing worsen disease. Organisms behaving this way have been referred to as "emerging or opportunistic". Because of the renewed interests, a lot of research work and attention is now being developed to them and what was previously unknown about them is now being discovered.

Such discoveries involve the interaction between *Leishmania* parasite and HIV/AIDS. It has now been confirmed that AIDS and visceral leshmaniasis (VL) are locked in a vicious circle of mutual reinforcement (1). VL accelerates the onset of full blown AIDS and shortness the life expectancy of HIV infected people while HIV spurs the spread of VL. The gridlock produces the cumulative deficiency of the immune response as *Leishmania* and HIV destroy the same cell, exponentially increasing disease severity and consequences.

In this issue of the East African Medical Journal, a rare case presenting as visceral leishmaniasis with concomitant post kala azar leishmaniasis (PKDL) in a female patient from a VL endemic district in Kenya is reported (2). Whereas it is known that PKDL (as the name suggests) only affects those who have previously suffered and been successfully treated for VL (3,4) in this case, the two clinical presentations i.e., the visceral form (VL) and the cutaneous form (PKDL) appeared concurrently. This is indeed rare as the authors rightly put it. It is also probably the first time such a case is reported in Kenya. The question that rings in the minds of those of us with interest in this field is: What is the significance of such findings in this era of immunosuppression and concomitant infections? Are such parasites adopting new ways of clinical presentations in their victims under these conditions?

Under normal situations, a person bitten by an infected sand fly would gradually develop a cutaneous or visceral form of the disease, which would either be treated or progress to other complications if not treated. In the case of HIV infections and suppressed immunity, the victim would rapidly develop severe forms of these manifestations. However, both presentations are not known to occur at the same time. It, therefore seems that in an altered environment, such a situation is bound to occur. A lesson for us from this example is that microbial infection require thorough medical evaluations to rule out unusual underlying problems.

Apart from the example given, there are other microbial pathogens referred to as "true opportunists". These pathogens take advantage of the already compromised immune systems to cause severe disease. Pathogens in this category form the largest group and include bacteria, parasite, viruses and fungi. Two examples of such pathogens are published in another article in this issue describing them as common causes of diarrhoea in the immunocompromised patients in a hospital in Malawi (5).

Cryptosporidiosis and isosporiasis are two intestinal pathogenic organisms only known to cause profuse and severe diarrhoea in the immunocompromised individuals (6,7). These pathogens truly fit the description of true opportunists such that in the presence of a suppressed immune state, they cause disease, which would otherwise not be serious or is self-limiting in those with a competent immune system. They are described as emerging pathogens since they were only previously described in small prints in medical scientific literature.

Once again research is describing these pathogens and alerting the scientific community of their existence and their possible management. As we become more and more aware of them, our knowledge on their identification and management is enhanced. Currently, the treatment of cryptosporidiosis and isoporiasis, like many other opportunistic infections including pneumocystic and toxoplasmosis, is not satisfactory (8,9). Many health institutions where patients with such infections are admitted rely heavily on supportive therapy and hope that the infection becomes self-limiting as the patients immune system improves. It is hoped that a time will come when such organisms will have specific effective drugs used as definitive treatment.

There are many more of these organisms we ought to be aware of in our day to day management of infectious diseases. At the moment no one would want to, talk of commensal organisms as being non-pathogenic since there are possibilities for them to cause certain symptoms in an altered environment. Our concerns and interests on all these should, therefore be catered for if emphasis is put on continuing medical education to educate and inform on their existence and possible complications. To supplement on such measures, our medical training institutions ought to periodically review and revise their curricula to conform to the current research outcomes. It is gratifying to note here that due to an increased interest in communicable and infectious diseases, there is great demand for physicians specialists in infectious diseases and clinical microbiogists in sub-Saharan Africa. This demand is now reflected in the

number of training programmes within our training institutions. It is, therefore, hoped that within a decade, these specialists will be available to effectively manage the emerging problems.

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