while minimising systemic toxicity. Although the way in which topical non-steroidal anti-inflammatory drugs induce pain relief remains uncertain, it is likely to rest on both bloodborne delivery and local alleviation of symptoms arising from periarticular, rather than intracapsular, structures.

The place of topical non-steroidal anti-inflammatory drugs within guidelines for the management of osteoarthritis has not been well defined. A systematic review of seven years ago included the results of 13 placebo controlled trials in which patients were being treated for a variety of conditions, including osteoarthritis. Topical non-steroidal anti-inflammatory drugs were found to be superior to placebo in reducing pain, such that 65% of treated patients showed a halving of their pain score compared with only 30% treated with placebo. In addition, a systematic review of topical capsaicin (an agent that depletes both afferent and epidermal nerve fibres of the neuropeptide, substance P) in the treatment of chronic pain reported the agent to have moderate efficacy at best, with a relatively high frequency (30%) of local cutaneous reactions.[6]

Given the widespread use of topical NSAID treatment, a review of the situation is timely. In this issue, Lin et al report a further meta-analysis exploring the use of these agents in the treatment of osteoarthritis.[7] This well conducted study found that topical non-steroidal anti-inflammatory drugs were superior to placebo in reducing pain and improving function over a fortnight, but that these effects were lost after four weeks had elapsed. The authors conclude that little evidence exists to support the long term use of topical non-steroidal anti-inflammatory drugs in osteoarthritis and suggest that current recommendations be revised. Most of the randomised controlled trials included in the review were of short duration (two weeks or less) and not a single study extended beyond one month. Marked heterogeneity became obvious in the results of the meta-analysis, with the strong likelihood that publication bias would, if anything, have acted to overestimate the benefits of topical non-steroidal anti-inflammatory drugs. Finally, the study found that the type of non-steroidal anti-inflammatory drug influenced the effect observed (studies used salicylic acid, eltenac, diclofenac, and ibuprofen).

Clearly, these data will have an impact on the enthusiasm with which practitioners and patients resort to the use of topical non-steroidal anti-inflammatory drug therapy in osteoarthritis. On the one hand, the clear evidence of effectiveness in pain relief over a two week period supports their inclusion as part of any multidisciplinary armamentarium. However, the waning of effectiveness over four weeks implies that topical therapy is best used for short periods during flare-ups in the disease. The comparability between topical and systemic use of non-steroidal anti-inflammatory drugs remains a difficult issue. The current review could only address this with limited statistical power, and further information will be gleaned from a trial comparing topical and oral ibuprofen supported by the NHS Health Technology Assessment.[7] Without results of comparative trials of different topical agents, one cannot convincingly argue that one topical non-steroidal anti-inflammatory drug is definitely more effective than another. Finally, and perhaps most importantly, the review shows the dearth of information available on a widely used treatment for one of our commonest causes of musculoskeletal disability. Carefully designed randomised controlled trials of interventions in osteoarthritis, which use appropriate end points and are conducted over sufficiently long duration to assess protracted effectiveness, are required so that we can delineate appropriate therapeutic strategies for a disorder whose frequency is bound to increase with the demographic changes in our population.

Cyrus Cooper *professor of rheumatology*

(cc@mrc.soton.ac.uk)

Kelsey M Jordan *clinical research fellow*

MRC Epidemiology Resource Centre, University of Southampton, Southampton General Hospital, Southampton SO16 6YD

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Preventing malaria in UK travellers

Guidelines stress the need for compliance with prophylaxis and standby medication

The advisory committee on malaria prevention for UK travellers has updated the guidance for healthcare professionals who advise travellers.[1] Noteworthy changes have been made in the advice from the guidelines produced previously. The new guidance places greater emphasis on the use of certain malaria chemoprophylaxis and has important changes regarding emergency standby medication.

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Worldwide, over 40% of the population lives in malarious areas with an estimated 300-500 million cases of malaria occurring each year resulting in up to two million deaths.[2] Importantly malaria is one of the most common causes of serious illness in the returning traveller. At least 2000 cases (10 000 in Europe[3]) are imported into the United Kingdom each year, and nine of these on average result in death. The proportion of cases due to *Plasmodium falciparum* has

continued to rise, accounting for more than half of the cases.[1 4]

Low price travel has led to increasing numbers of travellers visiting areas where malaria is endemic. Few of these travellers seek travel health advice before departure; the results of a study of European travellers showed that only 40% sought advice.[5] Initiatives to raise awareness and encourage more travellers to seek medical advice need to be developed as a priority, following the example of the "Know before you go" campaign of the Foreign and Commonwealth Office and the malaria awareness week.[4 6] Last minute travel reduces the likelihood of travellers seeking advice. This affects malaria chemoprophylaxis, which needs to be started before departure. Although doxycycline and atovaquone-proguanil can be started one day before travel, mefloquine needs to be started two and a half weeks before departure.[1]

Travel medicine is a rapidly expanding complex discipline, and the need for experienced specialists is acknowledged in the strategy of the Department of Health for combating infectious diseases.[7 8] With a continually changing picture, in terms of both the increase in drug resistant malaria and the development of malaria chemoprophylaxis, travel health practitioners need to have access to regular updates of guidance now available on the internet (www.hpa.org.uk). Guidelines are a crucial way of standardising and maintaining best clinical practice in travel health advice and ensuring that it is evidence based.

The guidelines from the World Health Organization, Centers for Disease Control and Prevention, and the updated guidelines from the advisory committee on malaria prevention recommend chemoprophylaxis of malaria by area, identifying those areas where chloroquine resistant malaria is present and differentiating between areas of high and low risk. The updated guidelines from the advisory committee on malaria prevention reflect the expanding choice of malaria chemoprophylaxis. In line with the WHO and CDC guidelines, mefloquine, doxycycline, and atovaquone-proguanil are the three recommended options for prophylaxis in areas with chloroquine resistant malaria, which is becoming increasingly prevalent.[3 9] The guidelines all recommend that standby emergency medication is provided for travellers taking prophylaxis who are travelling to remote areas and where they will be unable to access medical help within 24 hours. Travellers provided with standby emergency medication need to be sufficiently informed to be able to make reasonable judgments about taking the medication.[1] As well, all guidance recommends restrictive criteria for the provision of standby emergency medication and for travellers to be given clear written instructions for its use. Studies from outside the United Kingdom have shown that standby treatment is often used incorrectly, since less than 17% of travellers subsequently have a confirmatory diagnosis of malaria.[1]

In addition to people travelling to remote areas, standby medication may also be considered for people making short visits or living in an area with a low risk of drug resistant malaria. The guidelines from the advisory committee on malaria prevention say that while chloroquine can be used in non-resistant areas, atovaquone-proguanil or co-artemether are recommended for areas where resistance has developed. Quinine alone is recommended now only for pregnant women, for whom no satisfactory alternatives exist.

Compliance can be a problem with malaria chemoprophylaxis, and the need for regular administration must be emphasised; most deaths occur in people who take prophylaxis irregularly or not at all.[1] We need to communicate the importance of continuing prophylaxis after return, between one and four weeks depending on the medication, together with seeking medical advice if any symptoms of ill health occur several months after return.

Uptake of malaria prophylaxis has not been helped by the emphasis placed on the side effect profile of mefloquine. A recent study showed high tolerability to the four currently recommended drug regimens—combined chloroquine and proguanil, mefloquine, doxycycline, and combined atovaquone and proguanil—with no reported serious adverse events.[10] The latter two regimens were the better tolerated of the four. Although mefloquine is a valuable option, travel medicine professionals must be knowledgeable about its potential contraindications and serious side effects.

Analysis of travel trends shows that foreign travel will continue to increase; travel outside Europe and North America is currently rising at a rate of 7% each year.[11] UK travellers' continuing nonchalance regarding foreign travel means that practitioners of travel medicine need to emphasise the real risk of malaria infection to guard against the increasing and largely preventable mortality of the disease in travellers.[4] The availability of up to date guidance from the advisory committee on malaria prevention, WHO, and CDC provide the best tools with which this can be achieved.

Jane N Zuckerman *director*

WHO Collaborating Centre in Travel Medicine, Academic Centre for Travel Medicine and Vaccines, Royal Free and University College Medical School, London NW3 2PF

(j.zuckerman@rfc.ucl.ac.uk)

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