

	IPTi			Placebo			Hazard ratio (95% CI)	p
	Events	PYAR	Rate	Events	PYAR	Rate		
No previous malaria episodes	58	220.6	0.26	60	182.3	0.33	0.80 (0.56–1.15)	0.23
Previous malaria episodes	7	15.4	0.45	33	33.6	0.98	0.47 (0.21–1.07)	0.054

PYAR=person-years at risk.

**Table: Incidence of clinical malaria from 1 month after dose 3 until end of follow-up, according to malaria history**

episodes: additional follow-up and malaria episodes were included in the recent publication, which is particularly relevant because the Kaplan-Meier curves diverge with continuing follow-up. In addition, those excluded from the first analysis (ie, those who had had a previous episode of clinical malaria) are unlikely to have been a random subset of the study cohort.

A more robust approach is the analysis of protective effect during extended follow-up, adjusted for previous malaria episodes, which showed a 27% reduction in malaria in children who had not had a previous episode of malaria.<sup>2</sup> Although this analysis did not quite reach conventional levels of significance ( $p=0.053$ ), the result is in keeping with the malaria rates at 10–24 months of age (table). The larger effect was indeed seen in individuals who had had a previous malaria episode, but to say that this subgroup analysis showed that IPTi only protected in year two children who had an attack during their first year of life is probably incorrect. On a public-health level, the larger benefit might derive from the effect of IPTi in the 70% of children who had no clinical episode in their first year.

We used the term “clinical malaria” carefully and not as a synonym for *Plasmodium falciparum* infection. The increase in frequency of malaria after chemoprophylaxis is likely to be due to the anti-infection effects of chemoprophylaxis resulting in reduced opportunities for the development of a protective immune response. Chemoprophylaxis, in addition to probably being more effective at preventing infection than IPTi, also protected children for longer and until they were older. Therefore

infection in the second half of infancy might be required to mount an effective immune response.

What is clear is that clinical malaria attacks increase the risk of subsequent malaria (table), and that IPTi can largely prevent this increased risk. What mechanism could explain it? The symptoms and signs of a malaria attack result partly from non-protective immunological responses to immunogenic epitopes.<sup>3</sup> On subsequent reinfection, the non-protective, illness-causing responses are activated and a clinical episode results. IPTi may afford the immune system a greater opportunity to build a protective response against less immunogenic, but protective, antigens.

Defining the mechanism of action and efficacy of IPTi in a range of transmission settings will be valuable. This is the main reason why the IPTi Consortium was formed,<sup>4</sup> and the opportunity is being taken to investigate the effects of IPTi on the development of immune responses. The suspicion is that the development of immunological protection is critically dependent on the interplay between age, intensity of exposure to *P falciparum*, and the development of clinical malaria disease.

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## Palliative care in sub-Saharan Africa

We agree with Richard Harding and Irene Higginson (June 4, p 1971)<sup>1</sup> and Anne Merriman and Manjit Kaur (p 1909)<sup>2</sup> that improving palliative care services for people living with HIV/AIDS in sub-Saharan Africa is extremely important despite the increasing access to antiretroviral treatment (ART).

However, by far the most effective means of improving symptoms and the wellbeing of patients with AIDS is by successfully treating opportunistic infections and starting ART. With simple, affordable drugs and the free provision of antituberculous and antifungal therapy, most opportunistic infections can be cured. Numerous studies have shown the effectiveness of ART in Africa.<sup>3–5</sup> We therefore agree with Merriman and Kaur's view that palliative care in the era of ART should be clearly defined.

ART providers need to concentrate on the successful management of opportunistic infections and effective ART. Effective ART care must include excellent management of adherence, toxic effects, immune reconstitution events, and first-line treatment failure, as suggested by Harding and Higginson. Those who provide palliative care services should not duplicate this work. Doing so would be a waste of limited resources and dilute the important role palliative care still has.

Unfortunately, first-line and second-line ART will not work in some patients. Third-line treatment is not available and so the outcome for these patients is poor. Treatment for opportunistic neoplasms also remains unavailable for most patients. Many patients on the generic combination of lamivudine, stavudine, and nevirapine will have highly symptomatic neuropathy but will be unable to switch treatment owing to financial constraints or drug availability. Finally, some patients will present to ART providers too late for successful treatment and will need, as a matter of urgency, home-based symptom control and holistic care during their last days or weeks.

Agencies that fund palliative care services for HIV patients should target organisations with the skills and passion to deliver effective palliative care services to large numbers of patients. Donors should also seriously consider providing non-ART funds for patients with conditions that are amenable to treatment were it available. For example, the symptom control and quality of life of patients with Kaposi's sarcoma and cytomegalovirus retinitis may be best achieved, not by palliative care, but with the appropriate specific therapy, which may be very cost-effective if ART is also available.

Ideally all ART programmes should have access to palliative care services for the patients who need it. This access might be through the training of interested personnel or through networking with local organisations that specialise in home-based palliative care such as Hospice Uganda.

Palliative care centres should be aware of what is locally available in HIV care, so as to know when to refer on to ART providers if necessary. Knowledge of drug interactions between ART and the agents used in palliative care is also important. Finally, when to stop ART in resource-limited settings is an important question for patients in whom treatment has not worked, and one that should be answered using the appropriate evidence.

We declare that we have no conflict of interest.

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## Eye injuries in children: a new household risk

We wish to highlight the risk of chemical eye injuries posed by liquid tablet forms of household detergent, in particular, the risk to children.

In a 6-month period, we have treated six cases of alkali eye injury in children aged between 18 months and 3 years, all caused by liquid tablet washing detergent. These products are designed to be placed directly in a washing machine, and since the detergent is enclosed, they may appear safer. However, the tablets are of ideal size and consistency (figure) to be of interest to young children, who may instinctively squeeze them. Although the tablets are quite strong, they are liable to burst when squeezed hard, and in contact with water they become softer. In our patients, bursting led to detergent being sprayed over the eyes and face.

Alkali injuries are potentially the most severe form of chemical eye injury.<sup>1</sup> Alkaline agents are toxic to corneal and



Figure: Liquid tablet form of household detergent

conjunctival epithelial cells, limbal epithelial stem cells, and conjunctival goblet cells.<sup>1,2</sup> Therefore, in addition to acute chemically induced epithelial abrasion, limbal stem-cell damage may lead to long-term abnormalities of the ocular surface and significant visual compromise.<sup>3</sup>

In the six patients treated in our department, the corneal epithelial defect at the time of presentation ranged from 20% to 80% of corneal surface area, with bilateral injuries in three patients, and significant conjunctival epithelial defects in four. All patients were admitted to hospital, and the duration of stay ranged from 2 to 5 days. All defects eventually re-epithelialised with apparently normal corneal epithelium. All patients had had prompt irrigation of the eyes after the chemical splash. More serious sequelae would be likely in cases where irrigation of the eyes is delayed.

Each tablet contains 50 mL concentrated alkaline detergent (pH 9). Although the detergent packaging displays a warning that the contents are irritant, and that the product should be kept out of the reach of children, the real risk of injury posed may not be appreciated by consumers. We propose that the warning label should be more obvious, and that the packaging should be modified to make it child-proof. We have conveyed our concerns to the manufacturers. In the meantime, we feel that it is appropriate to increase awareness of the risk of potential injury.

We declare that we have no conflict of interest.

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