equation must be accurate for a valid conclusion to be drawn.

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Malaria eradication on islands

Sir—Akira Kaneko and colleagues (Nov 4, p 560)¹ describe the successful eradication of malaria on a small southwest Pacific island with 718 inhabitants through implementation of short-term mass-drug administration. Despite their encouraging report, short-term mass-drug administration is generally not effective in larger populations or geographic areas.

Successful malaria eradication requires cure of every infected host by antimalarial agents and complete interruption of the transmission chain by vector control. Incomplete coverage is a major pitfall of short-term mass-drug programmes. This difficulty increases with increasing size of population or geographical area. Another serious drawback is unidentified and unmanaged treatment failures because of poor case-finding and monitoring systems, which leads to incomplete cure of infected hosts. Elimination of mosquito vectors in large geographic areas is difficult to achieve in a short period of time, and resurgence of malaria and emergence of drug resistance can ensue.²

In 1965, malaria was successfully eradicated in Taiwan,^{3,4} a west Pacific island that had been heavily plagued by malaria for centuries. Taiwan has a much larger area and population than the island where Kaneko and colleagues worked. The incidence of malaria was up to 1.2 million cases yearly per six-million population. Instead of mass-drug administration, Taiwan has implemented, since 1952, a control programme of antimalarial drugs and pesticides, with an epidemiological and entomological surveillance system. Island-wide dichlorodiphenyltrichloroethane (DDT) 2-g/m² indoor spraying was done once yearly from 1952 to 1957, simultaneously with mass screening of

the population. Infected patients were given appropriate curative drug therapy. The incidence of malaria rapidly decreased and use of DDT was restricted to residual foci of transmission. It took until 1965, however, to completely eliminate parasite reservoirs, since then surveillance has effectively counteracted the continuous threat of imported malaria, and Taiwan has remained free from malaria.

We strongly advise a global malaria control programme of this type rather than mass-drug or pesticide administration.

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Risk score for treatment of upper-gastrointestinal haemorrhage

Sir—Oliver Blatchford and colleagues (Oct 14, p 1318)¹ propose a recidive prediction system for patients who have an upper-gastrointestinal haemorrhage on the basis of clinical and laboratory variables, to avoid the need for endoscopic data.

Many workers have reported their own triage systems based on scores obtained from the analysis of series of patients. Non-endoscopic variables that compose a score frequently vary from system to system, even in very similar studies, probably because of different methods of work and treatment used by the different groups in their own hospitals. Dependent on analysed data, medical or laboratory variables such as age, previous use of non-steroidal anti-inflammatory drugs, presence of comorbidity, or haemoglobin concentrations are significant risk predictors in

some series, but are excluded from others because of lack of significance.

Endoscopic variables are, however, more homogeneous than those of the triage systems: type of ulcer base, size and location of the bleeding ulcer, and the presence of active bleeding during the endoscopy. We did a prospective study in our hospital on 317 patients with an upper-gastrointestinal haemorrhage secondary to a gastroduodenal ulcer.² We have analysed the clinical and laboratory data and the endoscopic variables of recidive risk presented by our patients. Our four variables were independent predictors of risk, just one of which medical (presence of clinical findings of low cardiac output: syncope, angor pectoris, or systolic arterial pressure ≤ 100 mg Hg), the other three being endoscopic ulcer size, ulcer base feature, and presence of haematic rests in the tract explored by the endoscopist. By contrast with Blatchford and colleagues, age, the presence of melaena, cardiac frequency, and concentration of haemoglobin or blood urea were not independent risk variables.

Subsequently, we have validated our score with another prospective series of 175 patients, and even if we used a triage system of greater complexity that incorporated endoscopic data, 8% of patients had unpredicted rebleeding episodes (of 13 recidives, 12 were predicted by our score and one was not).³

We believe that Blatchford and colleagues' results are interesting, since their data contribute to a better knowledge of the behaviour of another series of bleeders, and their findings, once externally validated, could be of interest for hospitals without an available endoscopist. On the other hand, we believe that the score they propose, although valid in the context of their own hospital and working methods, is not applicable to other hospitals since it does not include the essential data offered by the endoscopy.

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