Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
agents, fluorouracil and cyclophosphamide had been administered to all infected patients. We therefore examined sealed vials of these two drugs. We were able to grow *C tropicalis* from the three batches of fluorouracil available in the hospital pharmacy. We informed the manufacturers of our findings and the drug was recalled across Pakistan. All patients who had received the contaminated drug are being followed up.

Routine surveillance led to the prompt control of a possible outbreak of nosocomial fungal infection in an immunocompromised population. Furthermore, iatrogenic infections across the country were prevented because of the timely withdrawal of the drug from the market.

Unfortunately, little attention is paid to infection control in developing countries. Reasons for such neglect include apparent associated high cost of surveillance, inadequate microbiological support, paucity of trained infection-control personnel, lack of hand-washing facilities, and poor quality-control measures of pharmaceutical companies. Moreover, absence of record keeping in drug prescribing with a non-existing patient tracking system makes it impossible to gather reliable data.

Our findings reinforce the need for active and effective infection control activity and systems for notification of adverse drug events at a national level. We urge international agencies to encourage and to lend support to such programmes, particularly in countries with a primitive health-care infrastructure.

We thank Elizabeth M Johnson for her assistance and support, and for her help in examination of specimens.

*Aafia Zafar, Rumina Hasan, Nasim Sabir*

Department of Pathology and Microbiology, Aga Khan University, P O Box 3500, Karachi 74800, Pakistan.

(e-mail: aafia.zafar@aku.edu)

---

1 Ezzedine H, Mourad M, Van Osseil C, et al. An outbreak of *Ochrobactrum anthropi* bacteraemia in five organ transplant patients. *J Hosp Infect* 1994; 27: 35–42.
2 Wang SA, Tokarz JL, Bianchione PJ, et al. *Enterobacter cloacae* bloodstream infections traced to contaminated human albumin. *Clin Infect Dis* 2000; 40: 35–40.
3 Zhubang Y, Bixia Z, Quhan L, Lihao C, Xiangquan L, Huaping L. Large-scale outbreak of infection with *Mycobacterium chelonae* subsp abscessus after penicillin injection. *J Clin Microbiol* 2002; 40: 2626–28.
4 Ponce-de-Leon S. The needs of developing countries and the resources required. *J Hosp Infect* 1991; 18 (suppl A): 76–81.
5 Nentlaman MD. Global aspects of infection control. *Infect Control Hosp Epidemiol* 1995; 14: 646–48.

**SARS transmission: language and droplet production**

Sir—Severe acute respiratory syndrome (SARS) is transmitted via droplets spread by infected individuals. Droplets are generated when patients cough and, to a lesser extent, when they talk during the early stages of disease. I believe that the efficiency of transmission of SARS by talking might be affected by the language spoken.

As of mid June, 2003, the number of probable cases of SARS in Japan remained zero, whereas there were more than 70 cases diagnosed in the USA.1 There were about 3·1 million Japanese travellers to mainland China, Hong Kong, and Taiwan in 2000,2 and about 2·3 million US citizens visited these areas in 2001.1 With such large numbers of visitors from Japan and USA, why have no Japanese visitors contracted the virus? Here, I propose a hypothesis.

The Chinese language has an aspiration/non-aspiration pronunciation system: the consonants p, t, k, q, ch, and c, when placed in front of vowels, are pronounced with a strong breath, by contrast with b, d, g, j, zh, and z. In English, but not in Japanese, p, t, and k are pronounced with a similar accompanying exhalation of breath. Furthermore, the p sound is not used as frequently in Japanese as in English. Aspiration could produce droplets.

A Chinese attendant in a souvenir shop probably speaks to American tourists in English, and to Japanese tourists in Japanese. If the shop assistant is in the early stages of SARS and has no cough, I believe American tourists would, hence, be exposed to the infectious droplets to a greater extent than would Japanese tourists.

I thank Professors S Yabuki, Yokohama City University, and T Kohno, Otsuwa Women’s University, for discussions on cultural and linguistic aspects of Chinese and American people.

**Uncertainty in SARS epidemiology**

Sir—Oliver Razum and colleagues (May 17, p 1739) rightly describe the difficulty inherent in fitting cumulative case data for severe acute respiratory syndrome (SARS) to exponential functions and then extrapolating the resulting curve.2 There are additional subtleties involved in these calculations that, if not understood, can lead to misleading conclusions.

The basic reproduction number, R0, is defined as the expected number of cases in the next disease generation caused by the index case in a naive population.1 This number provides a threshold criterion for an infectious agent to invade. Put simply, if R0 is greater than 1, there are more cases in the next disease generation, and an epidemic will occur. Thus, R0 is defined for an infectious agent in a particular population. In less formal settings, R0 is sometimes thought of as an intrinsic property of an infectious agent.

How should one estimate R0 for SARS? In Hong Kong, Vietnam, Thailand, Toronto, and Singapore, the first disease generation after the index case produced more than one secondary case, but in a few households, there were no secondary cases.3 Worldwide attention and infection control after the identification of initial cases probably reduced the number of cases per case in subsequent disease generations. Thus, the cumulative case data provide only very limited information...