shows that data worthy of confidence attract reliable, imitative, routine clinical practice.[10]

Compliance to standard regimens must, therefore, be judged by completely different criteria, according to the type of disease and treatment. Far from being a failure poor compliance in cancer of the ovaries might in some instances, seen from the hard end point of the outcome, be considered to be a defensive reaction against a burden of intervention that appears unjustified. It should be clear that omitting some parts of a regimen does not automatically mean a better quality of life for the patient, such as fewer side effects, but simply the exposure to causally linked procedures, which could entail worse side effects without assuring minimal benefits.[11 12]

Improving the situation does not therefore rest in trying to educate general hospitals to adopt standards of research or let them play empirically with regimens because results would be the same. A more scientific and ethically sound application of the above results might be to establish a strategy of easily applicable regimens monitored in large scale trials whenever a new or tenable hypothesis is at hand. This could well be true for not only cancer of the ovaries but also similarly "resistant" situations. When no hard recommendations are at hand a positively sober, not just permissive, attitude should be enforced to minimise risks, false impressions, and waste of resources. Integrated periodical studies of quality of process and outcome seem to provide a promising tool for monitoring the real yield of delivered care specifically in cancer but also in all conditions where effective treatments are not the rule.

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SHORT REPORTS

Role of fibreoptic bronchoscopy in management of pneumonia in acquired immune deficiency syndrome

While *Pneumocystis carinii* pneumonia is the most common opportunist lung infection in patients with the acquired immune deficiency syndrome (AIDS), other viral, fungal, and bacterial infections occur frequently.[1] The absence of clinical, radiological, or serological tests to differentiate these infections necessitates the use of fibreoptic bronchoscopy with transbronchial biopsy and bronchoalveolar lavage. This procedure appears to be safe for both patient and operator and results in diagnosis in over 85% of cases.[2 3] We report a study of 42 bronchoscopies in 30 patients at St Mary's Hospital showing the value of accurate diagnosis in patients with suspected AIDS complaining of pulmonary symptoms, who frequently have multiple, treatable opportunist infections.

Patients, methods, and results

Between June 1983 and July 1985, 42 bronchoscopies were performed on 30 homosexual men with suspected AIDS. All the patients were positive for antibodies to human T cell lymphotropic virus type III (HTLV-III) by enzyme linked immunosorbent assay or membrane immunofluorescence. Patients presented with symptoms of persistent non-productive cough or dyspnoea on exertion, with or without abnormal chest *x* ray appearances, hypoxia, or reduced carbon monoxide gas transfer. Thrombocytopenia or disordered coagulation was corrected and supplementary oxygen provided. Bronchoscopy was performed using a fully immersible Olympus BF10 fibreoptic bronchoscope; the operator wore sterile gown, gloves, mask, and goggles. Bronchoalveolar lavage, using 100-180 ml 0·9% saline in 20-50 ml aliquots, was followed by transbronchial biopsy (without fluoroscopic control) in the area of lung with maximum radiological abnormality (if present). The bronchoscope was disinfected with 2% glutaraldehyde for three hours after use.

Cytological, virological, and bacteriological examination of lavage fluid was performed using Gram, Ziehl-Neelsen, and Gomori's methenamine silver nitrate stain. Transbronchial biopsy tissue was pressed on to a slide to make touch preparations for cytological studies; the remainder was placed in formol saline for histological examination and in viral transport medium for culture.

Pn carinii was identified in 16 patients (table)—by transbronchial biopsy in 15, by touch preparations in four, and by bronchoalveolar lavage in five. In four patients endobronchial Kaposi's sarcoma was seen; all four had cutaneous lesions. Infections with *Mycobacterium tuberculosis*, cytomegalovirus, Gram positive cocci (*Streptococcus pneumoniae* and *Staphylococcus aureus*), and *Candida albicans* were identified in 11 patients; multiple infections were present in three. Negative findings with a strong clinical diagnosis of *Pn carinii* pneumonia and prompt response to high dose co-trimoxazole were classified as false negative.

Early mortality—that is, within one month of bronchoscopy—occurred in two patients with *Pn carinii* pneumonia, both of whom had concurrent cytomegalovirus infection; most patients (four out of five) with cytomegalovirus or candidal pneumonitis died within 28 days.

The procedure was well tolerated. Three patients developed pneumothoraces, one requiring drainage, and one patient bled 50 ml after biopsy, requiring topical adrenaline.

Pathological findings in 42 bronchoscopies in patients suspected of having AIDS

Diagnosis	No of cases	Transbronchial biopsy	Touch preparations	Bronchoalveolar lavage	Mortality (at 28 days)
Pn carinii pneumonia	16	15	4/7	5/12	2
Kaposi's sarcoma	4	2/2	—	—	1
Gram positive cocci	4	1/4	—	3/4	0
Myco tuberculosis	2	1/2	—	2/2	0
C albicans	2	2/2	0/2	1/2	2
Cytomegalovirus	3	3/3	—	1/2	2
False negative	5	—	—	—	3
True negative	9	—	—	—	0

Comment

There is a considerable debate concerning the merits of intensive investigation versus empirical treatment for AIDS pneumonia.[4 5] In this study only 16 of 42 bronchoscopies in patients with suspected or proved AIDS and pulmonary symptoms identified pneumocystis organisms. Even by including false negative cases the diagnosis of *Pn carinii* was under 50%. In 11 bronchoscopies other organisms were found, and were sometimes multiple. These infections were generally treatable with existing antimicrobial chemotherapy, and the emergence of new antiviral agents, especially against cytomegalovirus, will enlarge the therapeutic armament against such opportunist organisms.

Fibreoptic bronchoscopy is safe and well tolerated, but it appears that bronchoalveolar lavage alone does not have sufficient yield to avoid transbronchial biopsy. Atypical mycobacterial infection was not diagnosed by bronchoscopy, but *Myco xenopii* (two isolates) and *Myco kansasii* (one isolate) were cultured from three patients, two from needle lung necropsy specimens and one from pleural fluid. The absence of *Myco avium-intracellulare* in this British series may reflect differences in the prevalence of these environmental organisms.

The advantage of early diagnosis and treatment was highlighted by the low early mortality of patients with *Pn carinii* pneumonia, who were generally discharged within three weeks of diagnosis; the risks of the procedure in more critically ill patients were largely avoided. Furthermore, in most patients the bronchoscopic findings provided the only substantive evidence for a diagnosis of AIDS. In addition, the definition of the opportunist organisms enabled a rational approach to be taken in assessing the need for and appropriateness of ventilation when critical hypoxia developed after a period of treatment.

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Imported malaria in Britain: survey of British residents travelling to areas in which malaria is endemic

Sources of data on imported malaria include annual summaries of surveillance reports from the Malaria Reference Laboratory and specific reviews of clinical cases. There is little information, however, on the knowledge and practice of health of British residents travelling to areas in which malaria is endemic. The objective of this preliminary survey was to provide such information.

Subjects, methods, and results

A cross sectional questionnaire survey was carried out among passengers of British Airways travelling to areas in which malaria is endemic. An attempt was made to obtain a systematic one in four sample of passengers travelling on British Airways flights at the terminal 3 departure gate lounges at Heathrow airport.[1] A total of 323 passengers were identified as being normally resident in Britain and travelling to areas where there was a substantial risk of contracting malaria,[2 3] and all but three consented to be interviewed. British Airways carries one quarter of the air traffic from Britain to Africa and the Indian subcontinent. Characteristics of respondents thought likely to affect their knowledge and practice of health were controlled for in the data analysis to attempt to minimise bias introduced by such a selected sample.

Of the 320 passengers studied, 218 were men and 102 women; 64 were aged 0-19, 160 aged 20-39, and 96 aged over 40; 64 were tourists, 102 business travellers, and 112 visiting friends and relatives; 227 were white and 93 non-white; 115 were travelling to the Indian subcontinent, 80 to Africa, 83 to South East Asia, and 35 to the Middle East. Of all the passengers, 189 had taken chemoprophylaxis on previous visits overseas, 58 had not taken any on previous trips, and for 74 this was their first trip to a malarious area. The table gives a comparison of white and non-white respondents.

Comparison of white and non-white respondents. Values are proportions (%)

	Respondents			
	White	Non-white	χ^{2*}	$MH\chi^{2\dagger}$
Taking antimalarial tablets	161/190 (85)	50/94 (53)	$p<0.001$	$p<0.001$
Visited general practitioner	107/190 (56)	47/94 (50)	NS	NS
Obtained malarial advice when visited general practitioner	93/107 (87)	28/47 (60)	$p<0.001$	$p<0.001$
Knowledge of at least one method of personal protection other than chemoprophylaxis	118/190 (62)	24/94 (26)	$p<0.001$	$p<0.001$

*As no non-white respondents were travelling to the Middle East comparisons do not include those who were.
†After adjusting for age, category of traveller, country visited, and whether antimalarial tablets had been taken previously.

Comment

Non-white racial groups resident in Britain and travelling to malarious areas, principally to visit friends and relatives, travel less well prepared. These groups of travellers urgently need to be better informed.

This study reaffirms the opinions of other authors that an information and advice system based only on activities within the health services will always be less than satisfactory and in terms of noticeably reducing imported malaria inadequate. The crux of the problem is that a fairly low proportion of travellers consult health services before travelling to malarious areas; indeed fewer international vaccination requirements that necessitate such contact with health services exist since the eradication of smallpox and review of policy on vaccination for cholera. Cooperation of travel agents, airline companies, and business companies employing British residents overseas is required.

A wide range of chemoprophylaxis regimens are used by travellers, reflecting the present confusion in expert opinion on antimalarial chemoprophylaxis.[4 5]

Thirty five of the respondents in this study who were taking antimalarial tablets used pyrimethamine alone. This regimen is no longer recommended by the World Health Organisation[2] or the Malaria Reference Laboratory.

Pyrimethamine is, however, available without prescription in pharmacies in Britain. It is, perhaps, time for review of this policy. Sixteen of 131 general practitioners' prescriptions for antimalarial tablets in this survey were for pyrimethamine alone.

With the continuing emergence of drug resistant strains of the malarial parasite the essential role of methods of personal protection against anopheline mosquito bites should be emphasised.[6] Results of this study suggest that there is little such knowledge and among those who are advised about the need for chemoprophylaxis other forms of protection are not emphasised. These methods should receive more prominence in written and verbal advice to practitioners and non-health service agencies that inform the public.

Existing guidelines such as the Department of Health and Social Security's *Notice to Travellers* (SA35) and *ABC of Healthy Travel* deserve wider distribution.

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