Life insurance and HIV antibody testing

EDITOR,—Simon Barton and Peter Roth's recent editorial questioned the practice of British insurers asking applicants for life insurance whether they have had an HIV antibody test.¹ In addition, applicants may be asked to undergo such a test.

This was certainly my experience when I recently applied to several companies for life insurance—though I do not consider myself to belong to a so called "high risk" group, despite being an orthopaedic surgeon.

In response to these companies' request I asked them what their policy would be if at some later date I contracted HIV. The general response was that any claim would be void in the presence of a positive test. This attitude leads me to question their justification in requesting applicants for life insurance to undergo an HIV test if they know they will not honour a claim from anybody who subsequently becomes HIV positive.

When pressed, a few of the companies stated that were I to contract HIV in the course of my surgical duties they may consider treating me as a "special case" in which the onus would be on me to prove I had contracted HIV at work and not by any other method—a task which I imagine to be almost impossible.

It is time that British life insurers not only revise their policy of asking applicants to undergo an HIV antibody test but that they should also formulate a reasonable and practical policy for dealing with individuals who contract HIV at work.

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1 Barton S, Roth P. Life insurance and HIV antibody testing. *BMJ* 1992;305:902-3. (17 October.)

EDITOR,—Simon Barton and Peter Roth's editorial on life insurance and HIV antibody testing is based on selective quotations.¹ It is not helpful to the continuing debate on this sensitive issue. To take just one example, reference is made to a Department of Health survey, but this ignores the fact that the survey was carried out jointly by the Association of British Insurers and Department of Health and found that only three out of 1400 members of the general public might be deterred from coming forward for HIV testing as a result of life insurance implications.²

The general public are the life insurance industry's current and potential policyholders, so we are naturally concerned with public health issues. The Association of British Insurers has taken several initiatives, including supporting Barton and his staff and funding a substantial programme of education on HIV and AIDS in schools. We want as many people as possible to benefit from the financial protection of life insurance, but in doing so we must charge fair and equitable premiums to all, reflecting the relative risk of individual people.

Attitudes are changing, and people are coming forward for HIV testing. According to a recent report, one in 12 adults in London has had a voluntary HIV test.³ In one London health authority 95% of those seeking an HIV test go on to have the test after counselling,⁴ which shows that when informed counselling takes place life insurance is no longer a major issue.

The insurance industry has spent much time and effort in dialogue with all those with a legitimate interest in this subject. Above all, however, it has a duty to ensure that those who have entrusted their financial security to it have those expectations met as far as is possible.

Copies of the association's statement of practice over HIV and AIDS and leaflets are freely available from the Association of British Insurers. Together

with the chief medical officers of our member companies we continue to keep this important subject under constant review and will take account of developments in future.

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Salivary testing for HIV infection

EDITOR,—We support Delia F Morris in her concern about the reporting of unconfirmed positive findings from saliva samples screened for HIV antibodies for insurance purposes.¹ We had a similar case: a patient had been told that she was positive for HIV antibody as the result of a pre-insurance medical examination. On questioning the result, she was informed that there was a 90% probability that she was truly HIV antibody positive. This was especially surprising as there were no relevant risk factors. Fortunately, serological follow up testing—which was not suggested by the insurance company to either the patient or her general practitioner at the time—showed her to be negative for HIV.

This episode raised some concerns for us. Firstly, even if the initial testing had detected a true positive result, standard recommended guidelines had not been followed to allow error free diagnosis.² These recommendations indicate that all initial positive findings should be repeated by a second test method, preferably using a different source of antigens, and if both these tests give positive results then a second confirmatory specimen should be tested and found positive before the patient is informed, to check for possible handling errors. Only when these guidelines are followed can we ensure that patients are not subjected to unnecessary distress.

Secondly, salivary testing for antibodies to HIV has been evaluated for epidemiological studies³ and has been shown to have a high sensitivity but to have a false positive rate of 0.1%. Even if these tests had a sensitivity of 100%, the positive predictive value would be only 14.3% for the general population, assuming the prevalence of people positive for HIV antibody to be 1/5000 (based on local anonymous antenatal screening). Such a single test system with no follow up testing is suitable only for epidemiological purposes and should not be used to diagnose HIV infection in an individual.⁴

After discussion the insurance company concerned has amended its procedures so that all findings other than negative ones are followed up serologically.

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1 Morris DF. False positive salivary test. *BMJ* 1992;305:834. (3 October.)

2 AIDS Diagnosis Working Group. Towards error free HIV diagnosis: notes on laboratory practice. *PHLS Microbiology Digest* 1992;9:61-4.

3 Parry JV, Perry KR, Mortimer P. Sensitive assays for viral antibodies in saliva: an alternative to tests on serum. *Lancet* 1987;ii:72-5.

4 Global programme on AIDS: recommendations for the selection and use of HIV antibody tests. *Weekly Epidemiological Record* 1992;67:145-52.

EDITOR,—Delia F Morris describes a false positive result arising from an HIV test on a saliva specimen done for insurance purposes and questions the appropriateness of salivary testing.¹ Although experience is limited, there is no evidence that a false positive reaction is more likely if a saliva specimen instead of a serum specimen is tested for antibody to HIV. In the case referred to the possibility that this might happen was presumably dealt with in counselling before the test. When the positive result of the salivary test was reported the insurance company, properly, suggested that it should be checked with a blood test.

The more general issue that Morris raises is whether salivary tests for HIV should be used not just for epidemiological purposes but in clinical and other contexts where accuracy is of paramount importance. For this to be possible the tests would have to be both specific and sensitive. For tests on saliva it would be essential for the sample to be collected so that it contained a sufficient immunoglobulin concentration and for the assay to be selected for its high sensitivity. Saliva may be self collected by dribbling into, for instance, a sputum pot or by using a foam swab or a proprietary collecting device. The collecting devices must be used according to the instructions provided. To remove the risk of false negative results the IgG concentration of the collected specimen should be checked with either a commercially available gel diffusion kit or another assay. For each antibody assay applied to salivary specimens the minimum IgG concentration at which a negative result is reliable—that is, not possibly false—must be determined. For the Wellcozyme HIV 1+2 GACELISA (Murex) assay we use a minimum value of 0.5 mg/l.

Until further studies of collection devices and the sensitivity of assays are complete we recommend salivary testing only for epidemiological studies. When the safeguards mentioned above are in place, however, it should be possible to use salivary testing more widely.

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EDITOR,—Delia F Morris reports that saliva requested from a patient by an insurance company for testing for HIV antibody gave a false positive reading and that a subsequent serum sample gave a negative result.¹ Morris is correct in suggesting that HIV antibody testing of saliva was originally developed for epidemiological screening.^{2,3} It is now considered to be sufficiently reliable for testing individual people, provided IgG capture radioimmunoassay or enzyme immunoassay is used.⁴ It is possible, however, for deceitful proposers for life assurance who know or suspect that they may be positive for HIV antibody wilfully to submit, even under supervision, an improperly collected saliva sample which would not accurately reflect their true antibody status.

As a principal medical officer of a life assurance society I would then be concerned about a false negative result leading to an otherwise well HIV antibody positive person being accepted for life assurance at ordinary premium rates. Blood rather than saliva specimens are therefore at present preferred. A blood sample would also have saved Morris's patient the stress of 48 hours of uncertainty. If the specimen initially tests positive the larger sample in a blood specimen is easier to recheck by an alternative assay, with less chance of the proposer being upset in the interim. Blood can also be used, as appropriate, for assessing glucose, lipid, and γ glutamyltranspeptidase concentrations.

Besides insisting on pretest counselling when

requesting permission for HIV antibody testing some life assurance companies rightly ask proposers to nominate their general practitioner or another named doctor who should be informed in total confidence in the event of a positive result. This doctor need not be the one who obtained the sample, who may be less well known to the proposer and not necessarily in a position to offer long term support. This makes the procedure more personalised and acceptable to the proposer.

My life assurance society does not at present use saliva tests for HIV antibody testing so I have not had to delete references to false positive results in policy holders' documents. In the less likely event of a false positive result of a blood test I would insist that the subsequent negative result was given due prominence. These documents remain strictly confidential to the underwriting team.

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- 1 Morris DF. False positive salivary HIV test. *BMJ* 1992;305:834. (3 October.)
- 2 Parry JV, Perry KR, Mortimer PP. Sensitive assays for viral antibodies in saliva: an alternative to tests on serum. *Lancet* 1987;ii:72-5.
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EDITOR,—We endorse Delia F Morris's letter about salivary testing for antibody to HIV.¹ It would be interesting to know if the laboratory concerned was in the private sector since the quality control measures mentioned would already have been implemented in NHS laboratories.

It has also been brought to our attention that salivary testing is being suggested for use in screening people in custodial care (prisons and young offenders' institutions). It has been emphasised that, at the moment, salivary tests are suitable for anonymous surveys of seroprevalence in various populations but should not be considered to be an alternative to testing serum in named patients. We believe that it would be unfortunate if salivary testing received adverse publicity since it is potentially very useful; a foolproof method of obtaining a reliable sample for testing has yet to be identified, described, and assessed.

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Cycle helmets

EDITOR,—The most surprising aspect of the recent debate on cycle helmets is how widely the crucial points were missed.¹⁻³ There is no logical argument against wearing a helmet approved by the American National Standards Institute; it will do no harm and may do some good.

Doctors are whistling in the wind if they believe that public health strategies, schemes, and programmes will change the public's attitude. The considerable increase in helmet wearing over the past five years is due simply to changed perception of its fashion status. For most people the real reason that they do not wear a helmet is that they think that they look "uncool" or stupid (depending on peer group) riding around with a lump of

polystyrene and acrylic on their head. Those of us who are cyclists and doctors and believe in wearing a helmet as one of several self protective techniques must be grateful that manufacturers and retailers clearly understand the group and individual psychology of the disparate population of child, commuter, and recreational and sports cyclists. That they understand their market better than we understand a potential patient population should be a salutary lesson.

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- 2 Illingworth C. Do cycle helmets prevent serious head injury? The argument for helmets. *BMJ* 1992;305:882-3. (10 October.)
- 3 Trippie HR. Helmets for pedal cyclists. *BMJ* 1992;305:843-4. (10 October.)

EDITOR,—It is interesting how personal experience modifies one's views. I refer to use of cycle helmets.¹⁻³ A cyclist for well over 50 years, I used to share the view expressed by Mark McCarthy.²

Some years ago I was unconscious for a short time, with amnesia, after falling from a cycle and sustained head trauma requiring a fair amount of suturing. Although I quickly recovered from the injuries, I was left with a postural vertigo that lasted for over two years. Cynthia Illingworth states that "head injuries which at first seem to be minor may later prove more serious or lead to sequelae." My experience makes me wonder just how much hidden morbidity there is after head injuries incurred during cycling. In advocating the use of helmets doctors should emphasise their protection against morbidity as much as the life-saving aspects.

Modern helmets are light, well ventilated, and easy to wear. After a week or two of regular use they are on a par with car seat belts because you soon forget that you are wearing one. More use of helmets by adults would have a favourable influence on the more vulnerable young. I am not sure that legislation would be the answer but believe that doctors should recommend use of helmets as part of advice on lifestyle.

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- 1 Trippie HR. Helmets for pedal cyclists. *BMJ* 1992;305:843-4. (10 October.)
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Eradicating *Helicobacter pylori* in patients with duodenal ulcer

EDITOR,—We should like to comment on Shorland W Hosking and colleagues' paper reporting short term treatment for *Helicobacter pylori*.¹

The prevalence of metronidazole resistant *H pylori* before treatment and patients' compliance are major determinants of the eradication rate of treatments including metronidazole.^{2,3} Although we initially reported an overall eradication rate of 87%, subsequent subgroup analysis disclosed a 93% eradication rate for strains sensitive to metronidazole but only 19% for resistant strains.¹ Therefore it would be valuable to see a similar analysis with respect to Hosking and colleagues' data, because only then can the true effectiveness of their regimen be assessed. The importance of metronidazole resistance in determining the outcome of treatment and the emergence of multi-resistant strains of *H pylori* when treatments fail should not be underestimated; this problem makes pretreatment culture and in vitro antibiotic

sensitivity testing important for clinical trials and routine management.

Assessment of compliance is mentioned by the authors, but unfortunately no details of how this was done are given. Informal inquiry at the end of treatment is not adequate.

The usual definition of eradication (confusingly referred to as clearance in table II of their paper) requires all tests to be negative at least one month after the end of treatment. In studies relying solely on culture (for which five days on non-selective media is not sufficient) false negative results may have occurred.⁴ It is also not clear how patients with false positive results on urease tests and the one patient who subsequently regrew *H pylori* were classified. Thus it is possible, on an intention to treat analysis, that the eradication rate was only 64/78 (82%) and not 70/74 (95%).

The inherent problems of biopsy based methods for detecting *H pylori* are compounded in patients given omeprazole (incidentally, the dose used by Hosking and colleagues in their study is not stated) if biopsy specimens from the gastric corpus are not analysed.^{5,6} These problems could have been avoided by using a urea breath test to detect eradication. The breath test accurately detects the low levels of recolonisation often present after failed treatments and also provides the clinical "gold standard" alluded to by the authors in their discussion.^{7,8}

Finally, the design of the study may suggest that rates of duodenal ulcer healing and recurrence were additional end points. Graham *et al* have already shown, however, that ranitidine and a similar regimen against *H pylori* significantly increases the healing rate of duodenal ulcers,⁹ and we and others have shown that short term anti-helicobacter treatment without acid inhibitors is effective primary ulcer healing treatment for bleeding or non-bleeding ulcers.^{10,11}

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AUTHORS' REPLY,—Resistance of *Helicobacter pylori* to metronidazole was not measured in our trial. Logan *et al*'s data showed that 19% of resistant strains were eradicated by their regimen