LETTERS TO
THE EDITOR

Bronchography in the assessment of patients with lung collapse for endoscopic laser therapy

We would like to make the following comments concerning the bronchographic technique described in the study by Dr PJM George and colleagues (July 1990;45:503-8). Firstly, the iodine content and the osmolarity of the contrast medium Omnipaque used in the study were non-ionic, whereas more recently in our institution the contrast medium Iotrolan (a water soluble non-ionic dimer)1 would be suitable for this indication. Direct injection of the contrast medium into the suction channel of the fiberoptic bronchoscope after its tip has been placed at the proximal end of the tumour, should be attempted initially. It is simpler and less time consuming than the technique described by Dr George and his colleagues. Splitting of contrast medium into the contralateral bronchial tree should not cause pulmonary oedema as Iotrolan 300 (320 mmol/kg H2O) is almost iso-osmolar with the blood. If direct injection proved unsuccessful a catheter technique could be tried.

Low osmolar dimeric contrast media are more appropriate for such examinations. A monomeric non-ionic contrast agent such as Omnipaque at a concentration iso-osmolar with the blood would have an inadequate iodine content to produce a diagnostic result. Higher concentrations might induce pulmonary oedema if a substantial amount of the contrast medium were to spill over into the contralateral normal lung. We have used our technique successfully in one case with an obstructing central bronchial carcinoma being treated by laser therapy. We were able to show the extent of the tumour and the patency of the distal bronchus.

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AUTHOR'S REPLY We would like to thank Drs Morcos and Anderson for drawing our attention to an inadvertent error that was made in the text of our paper. Dioniol contrast was used throughout our study and not Omnipaque as is stated in the text.

Although there may be certain advantages associated with the use of Iotrolan in conventional bronchography (their ref 2), the ability to inject contrast directly into the suction channel of the bronchoscope is unlikely to be of value in patients with lung collapse. In most patients in our study tumour caused complete obstruction over several centimetres of the airway. It is most unlikely that contrast applied at the proximal border of such a tumour would penetrate sufficiently to provide a satisfactory image of the distal bronchial tree. A catheter technique is therefore essential. Furthermore, it is not particularly time consuming and is easy to perform.

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Value of washings and brushings at fiberoptic bronchoscopy in the diagnosis of lung cancer

Dr V H F Mak and colleagues (May 1990;45:373-6) suggest that biopsies with both brushings and washings should always be carried out in the investigation of suspected lung cancer.

We performed a similar retrospective study of all our bronchoscopies in 1987-8, using the same exclusion criteria as Dr Mak and colleagues. We observed 171 lung cancers; biopsies and washings were obtained in 133 cases. One hundred and one had endoscopic evidence of malignancy (group A) and 32 had a normal bronchoscopic appearance (group B). Diagnostic sensitivity was 93% and 75% respectively. In group A biopsies gave a positive result in 89% and washings in 83%; cytological examination of washings provided a positive diagnosis in four cases with normal histological appearances. In group B biopsy specimens were positive in 53% and washings in 59%; washings gave the only positive result in 22% (7/32). Statistical analysis by the two tailed Fisher's exact test showed no significant difference between the diagnostic sensitivity of using biopsy specimens only and the combination of biopsy specimens and washings, either in group A or in group B. Indeed, reanalysing the results of Dr Mak and colleagues using our statistical methods showed no significant difference between the sensitivity of the combination of biopsy, brushing, and washing and the use of biopsy and brushing only. Like other authors, on the basis of these analyses we do not think that bronchial washings should be carried out routinely for suspected lung cancer.

When bronchoscopic appearances are normal, cytological examination of sputum for bronchoscopy might be useful. We collected 109 samples of postbronchoscopy sputum in 47 of our 171 patients with lung cancer; 57 samples gave a positive result. In 22 patients (47%) neoplastic cells were present in the first sample collected after bronchoscopy. This procedure gave the only positive result in 10 patients (21%), six of whom had a tumour that was not visible on bronchoscopy. Statistical analysis (Y2 test with Yates's correction) showed that cytological examination of sputum after bronchoscopy improved the diagnosis of the tumours when the endoscopic appearance was normal (p < 0.05). These results are in keeping with other observations, but our series of cases is too small to draw any conclusion.

In our opinion the use of bilinear fluoroscopy to guide transbronchial fine needle aspiration or biopsy is at present the most reliable method for the diagnosis of peripheral lung cancer.

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