Bronchoscopic cryotherapy for advanced bronchial carcinoma

We were interested to read the paper by Dr D A Walsh and colleagues on bronchoscopic cryotherapy (July 1990;45:509–13). At a time when laser therapy is widely practised, their report provides a useful reminder that other, less costly, methods exist for debulking tumour from the upper airways. We would, however, like to question some of their conclusions.

Firstly, we suspect that the authors are overstating their case when they claim that the results of cryotherapy compare favourably with those obtained with the laser. In consecutive series of patients treated with the laser we observed no significant improvement in symptoms or objective signs in both lung function and breathlessness scores. In the study by Dr Walsh and colleagues significant improvements in indices of lung function were not seen, and changes in dyspnoea scores were appropriately assessed with an inappropriate statistical test (the paired Student’s t test). As breathlessness scores are measured on an ordinal scale, non-parametric, non-statistical tests are more suitable. The authors also claim that their results for treating lung collapse (successful re-expansion in 24% of patients) are similar to those obtained with the laser. Our recent export experience suggests that the results of laser therapy are substantially improved (successful re-expansion in 80% of patients) when treatment is combined with bronchography.¹ Although it is difficult to compare independently reported results, it might be argued that the results of cryotherapy are not as good as those of the laser.

Secondly, the authors claim that cryotherapy has the advantage of requiring a shorter general anaesthesia than the laser. It should be appreciated, however, that cryotherapy requires several treatments over a six week period and that each treatment requires a separate anaesthetic and hospital admission. We do not think that this is an ideal palliative treatment for a patient with a limited life expectancy. Although laser therapy may be relatively time consuming, optimal airway clearance is always obtained with one treatment, allowing the patient to remain at home until relapse. The ability to clear large quantities of tumour from the airway with the laser also ensures that symptomatic and functional improvements are rapid. Patients with tumours affecting the trachea and main carina are often in extreme respiratory distress at the time of referral and usually derive immediate and dramatic relief from laser therapy.¹ It is doubtful whether cryotherapy could provide the same rapid effect.

Finally, it is claimed that cryotherapy is associated with fewer complications than laser therapy. This statement is difficult to substantiate in view of the small number of patients treated with cryotherapy. Nevertheless, if one accepts that this is correct, it could still be argued that the increased risks of laser therapy are more than offset by the striking clinical benefit of treatment.

P J M GEORGE
R M RUDD
London Chest Hospital,
London E2 9JX

AUTHORS’ REPLY

We welcome the comments of Drs George and Rudd. Our paper was primarily concerned with reporting our experience of bronchoscopic cryotherapy. We found a significant improvement in dyspnoea score after cryotherapy (p < 0·05, Wilcoxon’s signed rank test). Fifty eight per cent of patients had improvement in at least one measure of lung function and these changes correlated with changes in dyspnoea and exercise tolerance. In our relatively unselected group of patients, most of whom had coexistent chronic airflow limitation and many of whom had an extrabronchial component to their obstruction, we were not surprised to find no overall improvement in any one measure of lung function. The papers of Drs George and colleagues were assessed in highly selected groups of patients and it would be inappropriate to directly compare their results with ours.

Although we routinely give a course of three treatments with cryotherapy, each period under anaesthesia is less than 15 minutes and the patient usually returns home within 24 hours. Most patients experience overall subjective improvement after a single episode of cryotherapy and the progressive and sustained improvement with three planned and brief treatments over six weeks provides good palliation. We note that even in the most recent paper of Drs George and colleagues we quoted above four of the 15 patients selected for laser therapy required more than a single treatment. Hetzel et al have previously remarked on the problems associated with prolonged intravenous anaesthesia in patients treated with laser.¹

Our experience of cryotherapy now extends to over five years and we treat, on average, five new patients a month. The low incidence of adverse effects reported in our published series is in no way atypical. It would require randomised, comparative studies to determine accurately the relative merits of cryotherapy and laser therapy. Meanwhile we believe that both treatments have a place in the palliative management of these patients.

D A WALKH
A R NATH
MO MAIWAND
Harefield Hospital,
Harefield,
Middlesex UB9 6JH


Tests giving an aetiological diagnosis in pulmonary disease in patients infected with the human immunodeficiency virus

In their review of the investigation of pulmonary disease in patients infected with HIV (January 1990;45:62–5) Dr Miller and colleagues propose that use of the technique of inducing sputum can be justified only in centres caring for large numbers of patients with AIDS. We report our experience, suggesting that the technique can be successfully used in centres with small numbers of HIV positive patients.

Nine HIV positive patients presenting consecutively in the last year with acute respiratory episodes suggestive of Pneumocystis carinii pneumonia underwent sputum induction performed by our ward physiotherapist with a Mistem EN145 ultrapneumococcal inoculator. The immunofluorescent antibody test for Pneumocystis carinii (Public Health Laboratory in house method) gave a positive result in six patients, all of whom responded to anti-pneumocystis treatment.⁵ The immunofluorescent antibody test for Pneumothalium influenzae were isolated from induced sputum in two patients who responded to appropriate antibiotics. One patient was unable to tolerate the procedure. He had aminopenicillins that responded to intravenous penicillin.

We had less success in the preceding year. Five HIV positive patients presenting with acute respiratory episodes suggestive of pneumocystis pneumonia underwent sputum induction performed by various ward staff, using a System 22 Acorn nebuliser. Specimens were stained with the Grocott methanamine silver stain for Pneumocystis carinii. The two other patients had successful results for treating lung collapse with bronchoalveolar lavage performed within 48 hours of sputum induction was positive for Pneumocystis carinii. The other two patients had successful results for treating lung collapse with bronchoalveolar lavage performed within 48 hours of sputum induction was positive for Pneumocystis carinii.

We attribute our improved results with induced sputum to the interest of our ward physiotherapist, careful adherence to the protocol, use of an ultrasonic nebulizer and the immunofluorescent antibody test for Pneumocystis carinii.³ Although time and effort have been required to achieve success, it has resulted in the easier management of our last nine patients. Sputum induction can be used in centres with low numbers of HIV infected patients.

C M PARRY
H M EVANS
N J BEECHING
Infectious Diseases Unit
Public Health Laboratory
Fazakerley Hospital,
Liverpool L9 7AL


AUTHORS’ REPLY

We are delighted to read that Dr Parry and his colleagues have obtained successful results with sputum induction for the diagnosis of respiratory episodes in HIV positive patients. The point we hoped to make in our article was that the time, effort, inconvenience and expense (if necessary by the use of aerosols) to prepare sputum for the diagnosis of Pneumocystis carinii pneumonia would be justified in most centres only if large numbers of procedures were carried out. This does not mean to say that centres with personnel who have particular skills and enthusiasm will not produce good results despite a low case load.

ROBERT MILLER
University College and Middlesex School of Medicine,
Middlesex Hospital,
London W1 4NA

DAVID MITCHELL
St Mary’s Hospital,
London W2 1NY
Tests giving an aetiological diagnosis in pulmonary disease in patients infected with the human immunodeficiency virus.

C M Parry, H M Evans and N J Beeching

Thorax 1991 46: 150
doi: 10.1136/thx.46.2.150-b

Updated information and services can be found at:
http://thorax.bmj.com/content/46/2/150.3.citation

These include:

Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
http://group.bmj.com/group/rights-licensing/permissions

To order reprints go to:
http://journals.bmj.com/cgi/reprintform

To subscribe to BMJ go to:
http://group.bmj.com/subscribe/