

The effectiveness of these laryngeal remnants as organs of speech and respiration has received little critical evaluation. In elderly patients, and especially those with poor pulmonary function, postoperative aspiration may prove fatal, and supra-glottic laryngectomy is generally agreed to be unwise in such patients. Even in the hands of those few laryngologists experienced in all conservation techniques the success of the procedure lies in accurate evaluation of tumour extent as a basis for selection of suitable patients. Preoperative assessment can never, however, be wholly accurate, and the difficulty of evaluating three-dimensional disease by two-dimensional methods results in the final decision having to be made during the actual operation—requiring considerable knowledge both of laryngeal cancer and of the limitations of conservation surgery.

Most patients suitable for simple removal of the vocal cord have early tumours and are best treated with radiotherapy. The cure rate is high,⁹ and if the tumour recurs salvage surgery—some form of vertical partial laryngectomy—gives worthwhile results and is relatively uncomplicated.¹⁰ The voice is better after irradiation than can be obtained by any conservative procedure, though there is possibly a risk of late radiation-induced laryngeal cancer in patients surviving over five years.¹¹ Many of these patients, however, continue to smoke and must therefore be considered at risk from a second cancer of the respiratory tract. Glottic cancer which has extended to adjoining areas of the larynx can also be treated by variants of vertical partial laryngectomy but there is no reliable evidence to show that cure rates are higher than with primary radiotherapy with surgery for the failures.

The case for horizontal supraglottic laryngectomy is less clear and certainly more controversial. No prospective randomised trials have been reported, but the cure rate for small supraglottic tumours does seem higher than with radiotherapy. Ogura *et al*¹² reported 83% against 20% and Olofsson *et al*¹³ 73% against 47%. Lederman¹⁴ and Fletcher¹⁵, whose collective experience in laryngeal radiotherapy is unrivalled, reported five-year survivals of around 64% for the surgical treatment of early supraglottic tumours and a report from Houston¹⁶ claimed 88%. Such variations indicate either careful case selection, essential in conservation surgery, or gross errors in classification.

Selection of patients for horizontal supraglottic laryngectomy is based on the findings of laryngoscopic and radiological examination together with a careful evaluation of each individual. The assessment demands considerable skill, however, and the rarity of early supraglottic cancer in Britain has inevitably resulted in the use of primary radiotherapy for many tumours which might well have been suitable for primary surgery. There is a considerable difference of opinion about the complication rate of conservation surgery carried out after irradiation has failed. Evaluation at surgery is more problematical after previous irradiation than in untreated patients. The delay between the completion of the radiotherapeutic regimen and the diagnosis of residual or recurrent tumour has a decisive effect on wound healing, operative morbidity, and postoperative mortality.

Experts in conservation surgery have limited experience with radiation failures while surgeons familiar with post-irradiation surgery tend to be reluctant to attempt secondary supraglottic laryngectomy. Have British laryngologists been unduly hesitant to consider using these well-tried techniques of conservation surgery for patients in whom radiotherapy has failed?

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¹⁴ Lederman, M, *Journal of Laryngology and Otolaryngology*, 1970, **84**, 867.

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Legionnaires' disease

In 1976 a group of American legionnaires developed serious pneumonia with a high death rate, and the flurry of investigations on these cases gave rise to the name legionnaires' disease.¹⁻³ Outbreaks of similar illnesses in other parts of the United States have been reported—Pontiac fever⁴ and, more recently, an outbreak at the Wadsworth VA Hospital in Los Angeles.⁵ Reports of legionnaires' disease in Britain⁶⁻⁸ and in holidaymakers returning from a hotel in Benidorm, Spain,^{9,10} have emphasised that the disease is not limited to the United States. A recent Ciba Foundation workshop was held to attempt to integrate the experience of legionnaires' disease in Britain, as a prelude to the forthcoming international meeting in the United States.

So far some 400 patients have had the disease in 12 outbreaks in the United States, with 75 sporadic cases in Britain. The disease is caused by an as yet unnamed Gram-negative coccobacillus, "a fascinating yet horrible" organism that defies classification but can be identified on electron or immunofluorescence microscopy or Dieterle's staining of lung sections. Culture of the organism, whether in vitro or in vivo, is extremely difficult.²

Dr A C Miller presented the clinical findings from the cases seen in Nottingham, the largest group so far in Britain. Cases have occurred throughout the year but are more common in summer. In the 18 confirmed cases, the male:female ratio has been 13:5, with ages ranging from 25 to 72. There have been three deaths, the survivors returning to normal health and normal respiratory function. Clinical features included a "viral"-type illness with cough but little sputum, headache, confusion, and commonly gastrointestinal symptoms (especially distension and diarrhoea). The temperature was over 39°C and there were signs of lobar consolidation. (Histologically the pneumonia affects alveoli and spares terminal and respiratory bronchioles.) Investigations showed a variable white blood cell count (5-15 × 10⁹ l, though never higher) and lymphocytes conspicuously less than 1 × 10⁹ l. Albuminuria, hyponatraemia, and abnormal liver function tests were common. Most patients improved spontaneously and were discharged from hospital in 10 days.

Elderly patients who had systemic, malignant, or respiratory disease fared worst among the Nottingham cases, deteriorating rapidly with increasing pulmonary congestion, and died despite treatment with antibiotics. Others agreed that in general antibiotics gave disappointing results, and that the

American enthusiasm for erythromycin was not justified by the British experience. But clinically the British cases are not entirely similar to those in the United States, where patients have been predominantly immunosuppressed and have possibly acquired their infections in institutions or hospitals.

Diagnosis, Miller claimed, could be made with reasonable confidence on the basis of albuminuria, hyponatraemia, and abnormal liver function. But the Ciba meeting felt strongly that these criteria should be tested by serologically examining all patients with atypical pneumonia who had these features. Serological diagnosis is based on an antibody titre equal to or greater than 256 or a fourfold rise in antibody to specific antigen. But to which antigen? The standard Philadelphia CDC antigen gives an appreciable incidence of false-positive diagnoses, and the formolised yolk sac antigen may give false-negative results. Moreover, in some cases where the organism has been found in lung tissue no specific antibody has been detected. Which antigen, then, should we use—the CDC antigen from the New World or indigenously produced antigen from the Old World? And how do we identify a “true case of legionnaires’ disease?”

We do not yet know how the disease is spread; transmission by airconditioning systems, watercourses, dust (American suggestions), and sheep or insect vectors (to explain the Benidorm hotel cases), and very rarely case-to-case spread, have all been postulated. It is not even clear whether legionnaires’ disease is a single entity: it could be a group of diseases caused by a group of similar organisms. Or the legionnaires’ disease organism may have altered virulence and different clinical effects in Britain, just as the *Treponema pallidum* produces two diseases with different virulence: yaws and syphilis. Is the New World giving the Old World another infection or is it endemic in both?

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⁴ Glick, T H, *et al*, *American Journal of Epidemiology*, 1978, **107**, 149.

⁵ Kirby, B D, *et al*, *Annals of Internal Medicine*, 1978, **89** (3), 297.

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Extending the role of the clinical nurse

As the practice of medicine has become more complex and more demanding with new methods of investigation, new drugs, and new techniques patients’ expectations have risen. Understandably, doctors have looked with increasing urgency at those aspects of their work that might, without detriment to their patients, be offered to professional colleagues and particularly to specially trained nurses. But there is nothing obvious or straightforward about nurses accepting responsibility for tasks traditionally performed by doctors: the nurse’s basic training fits her to care for people rather than to make diagnoses or initiate treatment. Any extension of her clinical functions could have important legal as well as training implications.

A recent circular¹ to area health authorities emphasised that a nurse should be specifically and adequately trained for any new task and the doctor who delegates the task should assure himself of the nurse’s competence. A doctor might be held to be guilty of negligent delegation were he to authorise a nurse to perform a task which was outside the scope of her normal duties or for which she had no special training; and the nurse, in accepting the task, would be vulnerable at law should anything go wrong.

In practice, nurses have been given responsibility for techniques such as suturing minor wounds; topping up epidural anaesthetics; removing foreign bodies from eyes, ears, and noses; taking cervical smears; inserting intrauterine contraceptive devices; performing outlet forceps deliveries; and repairing episiotomies. Health authorities (and individual doctors) vary in the extent to which they are prepared to delegate these tasks to nurses; and nurses vary in their ability and willingness to accept extra clinical responsibilities. A national training programme to suit all needs would probably be impossible to organise, and the Joint Board of Clinical Nursing Studies² has urged that training in specific procedures should be arranged locally.

More contentious is the substitution of the nurse for the doctor in the primary consultation (the use of the nurse in follow-up consultations, where responsibility can more easily be controlled, is another matter). Moore *et al*³ had a hospital staff nurse accompany a member of their group practice on 111 new house calls. The nurses’ and doctors’ decisions on the urgency of the cases were compared, and the results suggested that without additional training the nurse cannot deal safely with primary consultation. When the nurse is specially trained—as in studies reported by Smith and O’Donovan⁴ from the English midlands, by Spitzer *et al*⁵ from a suburban practice in Ontario, and by Wagstaff and Beukes⁶ in the African township of Soweto—it seems that she can offer limited primary health care. In the British report the nurses made about one-third of all the domiciliary visits; they saw patients with infectious diseases, attended to dressings, and did some screening tests. In Ontario they could look after about half the number of patients cared for by doctors, and they referred one-third of these for a medical opinion. Again, what the nurses tackled they did well and to the satisfaction of their patients. In Soweto, bereft of doctors since the 1976 riots, the primary care needs of the African township are now taken care of by specially trained black nurses working closely with the nearby Baragwanath Hospital.

How far the clinical nurse will help in primary care in Britain in the next decade is a matter for doctors, nurses, and patients to judge. Spence⁷ has argued that many lay people have only a faint idea of what the real work of a doctor entails. It is not simply a matter of diagnostic tests, operating theatres, or laboratories. Techniques have their place in medicine, but the essential feature of medical practice is that someone who is ill, or thinks he is ill, seeks the advice of a doctor whom he trusts. All else in the practice of medicine derives from this consultation, and any discussion about extending the role of the clinical nurse must recognise this central fact.

¹ DHSS, *The Extending Role of the Clinical Nurse. Legal Implications and Training Requirements*, HC(77)22. London, DHSS, 1977.

² Joint Board of Clinical Nursing Studies, *Bulletin No 18*, May 1978.

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⁴ Smith, J W, and O’Donovan, J B, *British Medical Journal*, 1970, **4**, 673.

⁵ Spitzer, W O, *et al*, *New England Journal of Medicine*, 1974, **290**, 251.

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⁷ Spence, J C, *The Training and Function of Doctors and Nurses*. London, National Association for Mental Health, 1949.