

British practice has been influenced by the results of a controlled trial of preoperative radiotherapy and radical cystectomy versus radical radiotherapy from the clinical trials group of the Institute of Urology.⁴ The three year survival rates were 45% for those who received 40 Gy (4000 rads) followed by cystectomy and 33% for those who received 60 Gy alone. Entry to the trial was restricted to patients under 70, but despite this restriction operative mortality was age related, being 6% in patients under 60, 9% for those of 60-64, and 11% for those of 65-70. For patients aged 65-69 survival was marginally better in those who received radical radiotherapy alone.

The results from the two countries cannot, however, be compared because there are no British figures for survival after radical cystectomy alone in patients over 70. The good survival figures from California are almost certainly due to a combination of surgical skill and careful selection of patients. Thus the study on patients with invasive cancer included those with invasion of superficial muscle (category T₂) as well as those with invasion of deep muscle (category T₃).⁵ Entry to the Institute of Urology trial was restricted to T₃ cases. Furthermore, the Californian study did not mention the histological grade of the tumours even though this is known to influence prognosis. Finally, selected elderly patients attending a secondary referral centre in California may be fitter than their British counterparts attending a teaching hospital or district general hospital which services a fixed catchment area.

Comparison between the two countries is confounded further by the continuing debate on the optimum treatment for invasive bladder cancer. Urologists in Britain are divided between two main schools of thought. One advocates a policy of combined preoperative radiotherapy and cystectomy—as evaluated in the Institute of Urology trial⁴ and as widely practised in North America.⁶ The other advocates primary radical radiotherapy with secondary (salvage) cystectomy for patients with persistent or recurrent tumour. In a series of patients who underwent this form of treatment at the London Hospital the five year survival rate for T₃ tumours was 51% for those aged under 55, 47% for those aged 55-64, 33% for those aged 65-74, and 22% for those over 74.⁷ An important advantage of primary radiotherapy is that most patients retain good bladder function. The desire to avoid cystectomy coupled with doubts about the marginal advantage of the combined regimen has resulted in most British hospitals adopting the policy of primary radical radiotherapy. For patients over 65 the Institute of Urology trial showed no advantage for the combined regimen of preoperative radiotherapy and cystectomy.

Whether primary treatment for patients with T₃ bladder tumours is radiotherapy or surgery two thirds will die within five years irrespective of their age, usually as the result of metastatic spread.⁸ This knowledge, combined with a desire to save patients from mutilating surgery, has led to a search for other methods of treatment. The early results of cancer chemotherapy have, however, been disappointing. Cisplatin, hexamethylamine, and methotrexate as single agents are active against transitional cell carcinoma but at best have only 20% activity.⁹ The Yorkshire Urological Cancer Research Group has reported a trial of patients with T₃, N_x, M₀ disease treated with radical radiotherapy and subsequently randomised to receive doxorubicin (Adriamycin) and fluorouracil or no additional treatment.¹⁰ The survival curves showed no significant difference. The most encouraging results have come from the Sloan Kettering Memorial Cancer Center, which reported that M-VAC (methotrexate, vinblastine,

Adriamycin, and cisplatin) induced a complete response in 12 of 24 patients with metastatic or unresectable tumour.¹¹ Unfortunately, the toxicity of this regimen is likely to restrict its use to specialist chemotherapy units.

In the future more effective chemotherapy regimens may allow more conservative surgery such as partial cystectomy or endoscopic ablation. Until then the good results and low operative mortality reported from California should encourage British urologists to consider cystectomy more frequently. They should also be aware that the authors attribute their low mortality rates to the routine use of prophylactic digitalis, effective bowel preparation, pre-operative hydration with intravenous fluids, good surgical technique, the routine use of a gastrostomy tube instead of nasogastric suction, early management in the intensive care unit, and routine prophylactic anticoagulation.

Bladder cancer is a disease of the elderly, yet many treatment protocols restrict entry to patients under 70. The Californian results suggest that that age might reasonably be increased to 79 even if radical cystectomy is a treatment option. Furthermore, it may be advisable for hospitals with a low cystectomy rate to refer patients to centres that have developed a special interest and skill in the treatment of patients with bladder cancer.

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Preventing infant deaths

A long awaited study of deaths in 988 infants aged between 1 week and 2 years of age has concluded that two thirds of the 131 infants seen by general practitioners and a quarter of the 69 admitted to hospital had received inadequate management. Furthermore, there were 297 infants in the study who developed terminal illnesses while in the community, and in a quarter of these cases the families had not recognised the severity of illnesses.¹ Are these conclusions scientifically sound and what should be done?

All 988 deaths (1976-9) in eight urban centres were studied prospectively with information from hospital records, general practitioners, health visitors, and a home interview. Detailed necropsies by paediatric pathologists were a crucial contribution to the confidential case conferences held at each

centre. All the clinical data were reviewed by two paediatricians, who found that 19% of deaths were genuinely unexpected and that 11% of the infants had non-specific symptoms. Only 519 infants had a necropsy by a paediatric pathologist, and the death certificate entries often conflicted with the clinical and pathological evidence: a third had severe lesions, a half mild, and only 15% had no lesions of terminal illness. Unexpected death occurred mainly between the ages of 4 and 19 weeks, and some infants had no symptoms despite severe disease at necropsy. Comparisons were made for 322 variables in 565 infants who died and matched controls. Despite the difficulties of performing this mammoth study the data seem sound, and the report is short and comprehensible.

When the preliminary report on the first 145 deaths was published in the *BMJ* in 1978² several correspondents stated that the 18 symptoms that were more common in the children who subsequently died were seen daily in children who were not admitted to hospital and survived. They argued that it was unreasonable to expect a general practitioner to detect the few who would subsequently die by using the criteria in the paper. After all, an unexpected infant death will occur on average only about once in every ten years in the practice of an individual practitioner. The critics were correct as the information cannot easily be adapted to practice without more interpretation or personal experience of managing children with potentially lethal diseases.

The list did, however, contain some undoubtedly sinister symptoms including sudden onset of fast and noisy breathing, poor feeding, drowsiness, and irritability. In infants less than 6 months of age, the group with the highest mortality, rapid deterioration may occur within a few hours and confirmatory signs may be minimal or absent. Another important problem is that we do not know how common these symptoms are in the community, and apart from measuring the respiratory rate and weight it is difficult to assess them objectively. I and many other paediatricians consider that the onset of one of these sinister symptoms is an indication for the infant to be seen by a member of the paediatric unit, and some of the infants must be admitted with their mothers—if only for observation overnight. The mothers may then be taught how to recognise important symptoms and how to manage them, which will serve them well during subsequent episodes. If the infant is not admitted the mother can still be taught about important symptoms, but the doctor must arrange a follow up after a short interval³—it is unfair and may be dangerous to leave this request to the mother.

Although this report is on deaths, it clearly shows that the medical care of all infants can be improved by dissemination of information that is already known. The average general practitioner will have only about 15 children aged under 6 months on his list, and he must give priority to this vulner-

able group: health visitors should see all these children at least once a month, and they should seek out those who do not present at routine clinics because they are probably the group most at risk. In addition, general practitioners should always be willing to see these infants at short notice when called and they should always arrange quick follow ups.

The incidence of sinister symptoms in the community needs to be assessed (and it is extraordinary that this never seems to have been done), and objective methods of assessing serious illnesses in infants must be taught to vocational trainees in general practice, junior hospital doctors, and student nurses. Schoolchildren and prospective parents also need advice on recognising and managing illness in children; perhaps a film should be made by the Health Education Council and booklets produced locally.

Parents may be taught how to observe a sick child, but if they had and used weighing scales, a tape measure, a growth chart, and a thermometer they would be more confident in knowing whether their child is seriously ill and whether they should call the doctor. In many countries when a mother telephones the doctor to ask him to see her child she will be able to give the child's exact temperature and will know whether he has lost any weight: such information would be very useful to doctors here.

Every necropsy on an infant should be performed by a paediatric pathologist, and a case conference should be held to determine the factors associated with the death. More pathologists with a special interest in paediatric pathology are needed to provide the exact diagnoses which are the basis of research: one of the factors most impeding research into infant deaths is the current absence of exact diagnoses. Finally, the terms "sudden unexpected death" and "sudden infant death syndrome" should be abandoned as often they do not fit the facts: we need the best possible clinical diagnosis followed by a pathological diagnosis based on a detailed necropsy.

Many different groups of health workers thus have something to learn from this report, and I am impressed that the DHSS has so quickly arranged a conference to discuss what action to take. I am less impressed with the inordinate amount of time it has taken to publish a report on data collected five years ago.

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