

## Women in hospital medicine

Despite official encouragement<sup>1</sup> appointments committees still seem reluctant to appoint part-time hospital medical staff. Much of this reluctance is probably due to their belief that the sort of obsessional dedication so valuable in a doctor is found less often in those who wish to split their lives between a medical career and some other occupation. And that is the problem facing many women doctors now—and one that will become ever more important as the proportion of women in medicine approaches half.<sup>2</sup>

Few women doctors, however, can expect or would want special treatment and in a recent paper the Medical Women's Federation states, rightly, that "women should work, train, and compete with men in mainstream medicine."<sup>3</sup> But unlike their male colleagues, most women doctors are bound at some stage in their career to practise medicine part time, and, as J D N Nabarro stated in his proposals for staffing NHS hospitals,<sup>4</sup> "this means that arrangements must be made for part-time employment at all levels in the training grades," while at consultant level "far more [limited-session appointments] are needed if the full potential of married women is to be utilised." The solution of this part-time dilemma will form part of the answer to the wider problems of medical manpower, for, as reports from the DHSS and BMA have shown,<sup>2,5</sup> the eventual extent of women doctors' contribution to medicine is one of the big imponderables in the medical numbers game.

If hospital medicine is to offer fulfilment to women and if women are to contribute their best to hospital medicine we need more facts on how women arrange their professional lives now as well as a more positive attitude from health authorities towards employing women. A report from the Oxford region by Dr A J Swerdlow and his colleagues at p 754 is helpful on both counts, for it produces some new information and with Dr Rosemary Rue, the Oxford RHA's regional medical officer, as a coauthor presumably one authority at least is alert to the problem. An encouraging finding in the report is that women doctors rarely encounter traditional anti-female prejudice. Those who are single and those who are childless mostly find themselves treated on equal terms with men (and may be better off in that respect than women in many other professional and managerial occupations). Prejudice comes in when a woman doctor is known to have small children: her colleagues believe—usually without any evidence—that she will be likely to take more time off, work shorter hours, and generally be less

dedicated than a man or a childless woman. Much the same applies to men (or women) doctors who try to combine their medical work with careers in competitive sport or entertainment; the assumption is made that their commitment to medicine will be less than total.

Certainly there are exceptions; but in general this assumption is correct. Total commitment to medicine—especially in the early postgraduate years—is usually found only in those individuals with no other absorbing interest. In the highly competitive specialties men just as much as women have to be prepared to postpone a normal way of life until they get a consultant job. At its simplest, as the Oxford survey found, the failure rate in postgraduate examinations is higher in women with children than in those without. Within these most competitive specialties—which include most branches of surgery, obstetrics, and internal medicine—requests for training arrangements for part-timers are likely to fall on unreceptive ears. The change in attitudes that is needed is an acceptance by all concerned that the sort of commitment required of an aspiring cardiothoracic surgeon is not necessary in every specialty. In most branches of medicine both part-time training and part-time working at consultant level can provide patients and colleagues with a first-class service, as the paper on part-time senior registrar anaesthetists at p 758 shows.

The belief that part-timers lack commitment may well be based as much on experience with part-time men (the neglect of their NHS duties by a few consultants in private practice, for example) as on women with over-demanding families. A woman doctor who works only five sessions a week may well bring to those sessions more enthusiasm and dedication than some of her full-time male colleagues.

How, then, can part-time work be made more widely available to women (and even, perhaps, a few men)? Hospital staffing more than ever needs a new structure and the consensus view seems to be that there should be more consultants and fewer registrars in training for consultant posts.<sup>4</sup> That will mean that consultants will need to deal with more emergencies out-of-hours. Fewer higher training posts will mean more competition for those that remain. The latest figures from the DHSS Medical Manpower Steering Group<sup>6</sup> show that between 1965 and 1976 the proportion of women doctors active in medicine rose from 66% to 83%. All the trends suggest that by the mid-1980s more women will be working as registrars and senior registrars. Nevertheless,

women who want part-time posts to combine with their families will be pushed into the background unless provision for such posts is built into the system as a mandatory requirement and not as a grace-and-favour option. Close to half of new medical graduates are now women, over half of whom marry in their 20s; three-quarters of all women doctors in their 30s are married. Even if only half of the coming generation of women doctors have children and want to continue their postgraduate training at the same time, that will mean that 25% of the training posts available should be arranged for part-time staff. The Oxford report draws attention to the sort of back-up needed if women are to be able to make use of such opportunities—child-minding facilities, study leave geared to the special requirements of parents of small children, and so on. Manpower calculations will need to be based more closely on whole-time equivalents when a substantial proportion of the medical workforce under the age of 50 is working part time.

<sup>1</sup> Department of Health and Social Security. *Contracts of consultants and other senior hospital medical staff*. PM(79)11. London: DHSS, 1979.

<sup>2</sup> Department of Health and Social Security. *Medical manpower—the next twenty years*. London: DHSS, 1978.

<sup>3</sup> Medical Women's Federation. *Postgraduate training and career structure in the hospital specialties*. London: Medical Women's Federation, 1980.

<sup>4</sup> Nabarro JDN. *Hospital staffing in the 1980s*. (Copies obtainable from the BMA Secretariat.)

<sup>5</sup> British Medical Association. *Medical manpower, staffing, and training requirements*. London: BMA, 1979.

<sup>6</sup> Department of Health and Social Security. *Medical manpower steering group report*. London: DHSS, 1980.

## Hormone receptors and human breast cancer

Endocrine manipulation causes regression of the tumour in about one-third of patients with metastatic breast cancer, but the responders cannot be selected accurately by clinical or histological features. The effect of a hormone is determined by its circulating concentration and the responsiveness of the end organ, which itself depends on a functional receptor mechanism. Breast cancer presents a striking example of a tissue that varies in its responsiveness to hormones, and it is the first disease in which estimation of tissue receptors can be used to predict the effect of treatment.

Specific high-affinity binding for oestradiol is detectable over a wide range of concentrations in extracts from the tumours of 60-70% of patients with metastatic breast cancer.<sup>1-3</sup> Regression with endocrine treatment occurs in about half the patients with tumours that give positive results but in only one in 10-20 of those with undetectable binding.<sup>4</sup> With such odds ablative surgery is unjustifiable in patients with oestrogen-receptor-negative tumours. Some progress has been made in identifying more precisely those tumours with detectable receptors that are sensitive to hormones. For example, those with relatively high concentrations of oestrogen receptor are more likely to be responsive.<sup>1-3</sup> Oestrogen binding varies between tumour cells even in a single histological section,<sup>5</sup> and some oestrogen-receptor-positive tumours which nevertheless prove unresponsive may have a large fraction of cells that do not contain receptor or have too low a concentration to confer responsiveness. But the concentration of receptor is not the only factor, as response rates do not exceed 80% even in tumours with relatively high concentrations. Trans-

location of the oestradiol-receptor complex to the nucleus may be defective in about half the tumours with receptor,<sup>6</sup> and they are less likely to be responsive to hormones.<sup>7</sup> Progesterone receptor, which in other tissues is dependent on oestrogen stimulation, is rarely found in tumours in which oestrogen receptor is undetectable; the response rate of tumours containing both types of receptor is about 75%.<sup>1</sup>

Testing for receptors will be important for selecting patients if antioestrogen treatment is found to be beneficial when given as an adjunct to mastectomy. Improvements in techniques of tumour collection and estimation of receptors have increased the proportion of tumours found positive on testing,<sup>8</sup> but a small proportion remains of responsive tumours in which receptors are undetectable.<sup>1</sup> As a result many clinicians believe that treatment with antioestrogens should be given for a trial period to all patients. In current clinical practice estimation of receptors is probably best restricted to patients entering clinical trials who are to be stratified on the basis of the results. Estimation of oestrogen receptor in all tumour specimens<sup>10</sup> would mean that patients were well documented for future research, but the cost seems unjustifiable without more definite evidence of long-term benefit to patients.

Though the clinical applications of receptor estimation are becoming clearer,<sup>9</sup> the mechanisms by which changes in the hormonal environment cause regression of the tumour are more complex. For example, recurrence of growth after a period of hormone-induced remission may be followed by regression with a change of hormone treatment or even after withdrawal of the treatment that was initially successful. This suggests that tumours may undergo a qualitative change in responsiveness to hormones, possibly by overgrowth of better-adapted cells. Moreover, not all responses are likely to be mediated through oestrogen receptor; and yet estimation of oestrogen receptor predicts the response to endocrine manipulation as diverse as oophorectomy, hypophysectomy, and treatment with androgens and corticosteroids.<sup>4</sup> Receptors for oestradiol, progesterone, testosterone, and cortisol tend to occur in the same tumours<sup>11</sup> and the reason that tumours with oestrogen receptor are sensitive to hormones other than oestrogens or their antagonists may be that oestrogen receptor is directly associated with other receptors by receptor regulatory mechanisms. Alternatively, the association between receptors and their functional capacity, the morphological features of differentiation such as tubule and acinar formation,<sup>12 13</sup> and the synthesis of specialised proteins<sup>14</sup> may all arise because some tumours are sufficiently differentiated to manifest features of normal breast tissue.

We do not know how far differentiation is under endocrine control, but studies linking receptors and hormone-dependent proteins with morphological and clinical features may help the recognition of hormone-sensitive tumours; and—more important—they may lead to better understanding of the control mechanisms, both intact and defective, that influence growth of breast tumour cells.

<sup>1</sup> McGuire WL. Hormone receptors: their role in predicting prognosis and response to endocrine therapy. *Semin Oncol* 1978;5:428-33.

<sup>2</sup> DeSombre ER, Greene GL, Jensen EV. Estrophilin and endocrine responsiveness of breast cancer. In: McGuire WL, ed. *Hormones, receptors and breast cancer*. New York: Raven Press, 1978:1-14.

<sup>3</sup> Allegra JC, Lippman ME, Thomson EB, et al. Estrogen receptor status: an important variable in predicting response to endocrine therapy in metastatic breast cancer. *Eur J Cancer* 1980;16:323-31.

<sup>4</sup> McGuire WL, Carbone PP, Sears ME, Escher GC. Estrogen receptors in human breast cancer: an overview. In: McGuire WL, Carbone PP, Wollmer EP, eds. *Estrogen receptors in human breast cancer*. New York: Raven Press, 1975:1-9.

<sup>5</sup> Walker RA, Cove DH, Howell A. Histological detection of oestrogen receptor in human breast carcinomas. *Lancet* 1980;ii:171-3.