Contemporary Themes

Screening for Breast Cancer

A Statement by the British Breast Group*

British Medical Journal, 1975, 3, 357-358

British women are becoming increasingly aware of the high incidence and poor results of treatment of cancer of the breast and are expressing great interest in the possibility that early diagnosis by screening methods could improve the situation. We have examined the evidence that regular screening for breast cancer by clinical examination and mammography improves the prognosis and have considered the current position on breast screening in Britain. We believe it is timely to state our views, particularly in the light of the statement made by the Minister of State for Health.1

(1) Published Evidence

The main evidence that regular screening of the breasts of normal women by clinical and radiological examination results in a reduction in mortality from breast cancer comes from a single study started in New York in 1963 by Strax et al. The study included 62,000 women aged 40-64 years, 31,000 of whom were selected at random and offered screening by clinical examination and mammography on four occasions at yearly intervals. The other 31,000 women received only their normal medical care and served as controls. The results indicate that in the screened population breast cancer was detected at an earlier stage and that deaths within seven years of enrolment were reduced by about a third. This benefit was limited to women over the age of 50 years.

We should like to have had more information on certain aspects of the study—for example, the histology of the lesions detected by screening; the separate sensitivities and effectiveness of the two screening methods, particularly in regard to those patients whose disease was discovered spontaneously between screening procedures; and the comparability of medical care given for the disease in the two groups of women. We are disappointed to hear that the study has apparently been terminated and that further follow-up will be restricted to the women who developed cancer.

Nevertheless, we are convinced that the early diagnosis of breast cancer is important and that it improves the cure rate. The results of this single study, however, cannot provide a sufficient basis for the planning, introduction, and development of a comprehensive screening programme in Britain.

(2) Objectives of Present Screening Clinics

The Departments of Health (D.H.S.S. and S.H.H.D.) have instituted screening clinics for breast cancer in Manchester, West London, Edinburgh, and Bath, two of which are fully operational. The objectives were to test the feasibility of large-scale screening, develop staff training methods, assess the reliability of nurses and radiographers for palpation and the interpretation of mammograms, and provide a basis or experience and expertise for a definitive national service.

There was no intention to repeat the New York study or answer fundamental questions relating to the aetiology of the disease, the definition of high-risk groups, or the effectiveness of screening and the best use of existing resources. Such questions will never be answered by simple extension of screening facilities; co-ordination of research is an equal and essential requirement.

(3) Use of Resources

In the New York study four yearly screening examinations were offered. If only four such examinations were to be offered to a total population the effect on the mortality from breast cancer during the lifetime of that population could well be small. The reduction in mortality which could result from yearly clinical and mammographic screening throughout a woman’s life is not known, as neither is the value of other screening programmes. The effects of different frequencies of screening examinations, different modalities for screening at varying intervals, and different patterns of screening in groups of women stratified according to risk must be ascertained.1

*Members of the group were: M. Baum, L. H. Blumgart, Diana Brinkley, R. D. Bulbrook, J. A. Dusset, A. P. M. Forrest (chairman), R. Gibb, E. N. Gleave, I. H. Gravelle, K. Griffiths, J. Haybittle, J. L. Hayward, J. G. Murray, A. M. Neville, M. Maureen Roberts (secretary), R. A. Sellwood, Helen J. Stewart, B. A. Stoll, and M. P. Vessey. The statement was prepared with the help of Professor George Knox and Professor Eric Samuel.
We doubt if this country can bear the cost or effort required to screen all women on a yearly basis. Resources would be better employed in the limited extension of screening facilities and the planning of controlled studies to answer some of these questions.

(4) Risks from X-irradiation

The risks from repeated mammography are uncertain. We are doubtful of the evidence suggesting that a dose of 2 rads to the breast contributes a significant risk of breast cancer but accept that frequently repeated exposures may be harmful. Programmes of screening must include accurate assessment of dosimetry and of the long-term risk. While the study reported from the Manchester screening clinic has indicated that adequate mammography can be carried out with a total surface dose of less than 0.2 rad to the breast, there is a need for more detailed investigation of technical methods which do not utilize X-irradiation.

(5) Associated Services

The New York study indicated that cancers detected by mammography alone have an uncommonly good prognosis. Reliable methods for sampling areas of the breast which contain only mammographic abnormalities must be established. Unless valuable information is to be lost, screening clinics must be linked with expert diagnostic and biopsy services specifically designed for the management of breast disease.

Standardization of the histology of breast biopsy specimens is urgently needed, and a panel of pathologists should be set up to advise screening clinics. It is particularly important to define the relationship of mammographic microcalcifications and histologically proved benign abnormalities to the risk of the subsequent development of invasive cancer.

(6) Future Aims

Too many women first attend hospital clinics in Britain with locally advanced or even metastatic breast cancer. Inquiry into the reasons and the development of methods to encourage all women to seek early treatment could have a profound effect in reducing the mortality from the disease; so also could the development of well organized services for the diagnosis and management of breast cancer in our hospitals. We believe that encouragement should be given to those willing to devote time and energy to this purpose. Rationally, these two considerations must have at least equal priority to a national screening service.

(7) Selection of Women at Risk

When taking into account the current state of resources, the theoretical risks from radiation, and the poor attendance rate of women offered routine screening, consideration should be given to concentrating programmes of screening on women at risk. Some factors associated with an increased risk of breast cancer have already been defined—for example, early menarche, late first pregnancy, family history, and abnormalities of steroid excretion. More basic research is required, however, before these and other factors can be used to select those women for whom regular screening will prove most effective. It is important also to determine whether a woman thought not to be at risk could be adequately screened by a single examination at a defined age.

Conclusions

In our opinion there is insufficient evidence concerning its effectiveness to justify the initiation of a national programme of breast screening. As the existing programmes will not provide enough data to answer questions raised by the New York study there should now be limited extension of existing experimental services for breast screening in centres where back-up facilities for the diagnosis and management of breast cancer are well developed. We are encouraged that the Minister of State for Health has made a step in the right direction by promoting, with the Medical Research Council, working groups to advise on some of these questions. We stress, however, that useful and valid information will be obtained only if a definite effort is made to co-ordinate the research programmes of individual screening clinics.

References

4. Shapiro, S., personal communication.

Alternative Means of Access to Circulation for Chronic Haemodialysis

E. M. GORDON

British Medical Journal, 1975, 3, 358-359

Summary

Various standard techniques of access to the circulation for haemodialysis are ideal for most patients. Another type of internal fistula of large vessels, between the saphenous vein and the femoral artery, has been found useful in patients whose peripheral vessels are unsuitable for the standard means of access.

Charing Cross Hospital Medical School, London W6 8RF
E. M. GORDON, F.R.C.S., Senior Surgical Registrar

Introduction

A reliable means of regular access to the circulation, which allows patients to be intermittently connected to a dialyser, has been important in the development of haemodialysis as a generally accepted treatment for end-stage renal failure.

External shunts are simple to insert, painless to use, and adequate for several weeks or even months but have several disadvantages: clotting, recurrent sepsis, limitation of the patient’s activities, and the need for occasional revision. The internal arteriovenous fistula obviates most of these difficulties. For most patients on maintenance haemodialysis the cephalic vein/radial artery fistula is quite suitable, but there are problems in constructing these fistulae in some patients owing to previous