

A good prognosis for progress in breast cancer

→ Mary Rice

Developments in adjuvant therapies, surgical techniques or genetic profiling are discussed in scores of forums throughout the year. But multidisciplinary requires a broader view of progress in the field – and that was the aim of the Milan Breast Cancer Observatory, held for the first time this summer.

At the 6th Milan Breast Cancer Conference held this June, distinguished specialists were asked to read the stars to divine what the coming year would hold in store for the world of breast cancer. In a session entitled the Milan Breast Cancer Observatory, scientists, clinicians, a representative from the advocacy group Europa Donna and a health reporter from the national press presented their predictions for their own fields of work over the 12 months ahead.

The Conference is an annual affair, organised by the European Institute of Oncology, and attended by leaders in surgery, radiotherapy, medical oncology, basic science, pathology, biostatistics and clinical trials, from all over the world.

This was the first year to feature an Observatory session on the agenda,

but it is intended to become an annual event.

The star-gazing exercise is designed to help conference participants to place their own work within the context of trends and developments in the wider field of breast cancer. This is becoming increasingly important as scientific progress is rapidly increasing our knowledge of the disease, particularly in the area of genetic profiling, with implications for pathology, diagnostics, therapeutic procedures and tailoring treatments. This rapid pace of progress, advised the Observatory's panel of experts, looks set to continue.

TARGETED TREATMENT

Gene expression profiles and proteomics were flagged up as the great white hope for the coming year. The expectation was that these would be

able to lead to tailored treatment based not just on genetic signatures but also on such factors as types of cancer and age. Early efforts will be made to bring microarrays and proteomic signatures into clinical practice in order to create appropriate treatments for individuals.

Tumour markers and genetic profiles have a number of other uses: they can help improve treatment selection for pre-operative chemotherapy, which will allow more women to preserve their breasts. They can also be used to identify sub-groups of patients at high risk of recurrence in order to modify treatment. This may help select patients with ductal carcinoma in situ (DCIS) for treatment by excision alone, thereby avoiding radiation.

The distinction between endocrine responsive and non-endocrine responsive disease is set to gain wider



increased incidence rates. These increases have frequently been the result of including more minor changes, which, though similar, lack the intrinsic risk of local recurrence and evolution to the invasion of lesions that define the importance of DCIS. The level of threat to survival represented by different local and distant recurrences, including the time dependency of survival in high-grade, rapidly proliferating cancers, will be more precisely defined.

The increasing incidence of 'inflammatory carcinoma' will be significantly reduced by careful application of diagnostic criteria – an effort already begun by quantifying the degree of breast involvement by inflammatory changes. The importance of clustering in analysing standard data will become more widely recognised.

BIostatisticians

How will all this be held together? Strengthening the collaborations between biostatistical scientists and clinical and laboratory scientists will be a critical part of achieving progress. Computation biology plays an increasingly important role in defining the molecular basis of disease and identifying targets for therapeutic intervention. Equally important for patient care will be the thoughtful application of current clinical trial methodologies to tailor trial design and analyse results separately for subpopulations of patients according to the steroid hormone receptor status of the primary tumour.

Patient Participation

There will be a growing recognition of the contribution that patient advocates can make, particularly in the area of clinical trials. Patient groups will play a bigger role in

recognition as a major tool for planning systemic therapies for breast cancer. Sequential endocrine adjuvant therapies are likely to be confirmed as a valuable therapeutic approach in women with endocrine responsive disease, though further studies to overcome resistance to endocrine therapies by sequential treatments are needed.

There will also be new opportunities for improving the use of therapies for patients with advanced breast cancer by using the new targeted treatments together with cytotoxic agents. These compounds will reach the stage of testing in the adjuvant setting very shortly.

Progress is also expected in the development of novel agents with one or a few biological targets, using advanced molecular and immunological technology to overcome mechanisms of malignant transformation, infiltration and metastasis which are still unclear.

HORMONE-SENSITIVE CANCERS

Aromatase inhibitors are set to become the standard adjuvant treat-

ment for women who have steroid-receptor-positive breast cancer, although warnings were raised of the need for special care in monitoring bone loss. Continuing refinements of adjuvant chemotherapy regimens are expected, paying particular attention to the selection of drugs and dosage, and to the treatment schedule.

In both developed and developing countries, clinical prediction for the appropriate use of tamoxifen in selected patients should become standard.

This strategy will be essential to offset increasing healthcare costs.

SENTINEL NODE BIOPSY

Sentinel node biopsy is set to become the universal standard of care for node-negative stage 1 and 2 breast cancer. The procedure will also be used more frequently after neoadjuvant therapy when the axilla is downstaged to node-negative after treatment.

OVERDIAGNOSIS

Diagnostic histopathologists will apply criteria to avoid overdiagnosis of DCIS and other conditions with

Aromatase inhibitors will become the standard adjuvant treatment for steroid-receptor-positive breast cancer

spreading information about ongoing trials, and we can also expect to see more patient advocates included in clinical trial committees, contributing their views and experiences to discussions and decisions about their design.

THE POLITICAL AGENDA

As of June 2003, Europe has been committed to a set of policies laid out in the Breast Cancer Resolution, which includes moving towards services provided through multidisciplinary teams in networks of specialist centres in line with the EUSOMA guidelines. Some progress can be expected on this front – faster in some countries than others. We can also hope to see progress in reaching the target set by the resolution of reducing breast cancer mortality by

25% and reducing disparities in five-year-survival across Europe from 16% to 5%.

THE MESSAGE

The health media will start to move away from the traditional emphasis on promoting breast awareness and breast checking – felt by most health commentators to be a ‘completed job’ – to translating and communicating to the public the ever-greater progress in breast cancer therapies. The partnership between health professionals and health media can be extremely productive for all concerned – not least the patient. In the long run, the informed patient will raise standards of care. Traditional barriers between the medical profession and the media are breaking down and specialists are increasingly

recognising the value of sharing their knowledge with the general public via the media.

GOOD FORTUNE AHEAD

Some bad omens were detected in some panelists’ planetary divinations. There were warnings that bureaucracy will continue to impose an unnecessary impediment and complication on academic clinical trials, and that industry was generally unsupportive of academic clinical research. Bureaucracy on the part of funding agencies was also seen as a threat, as was the level of public funding for research, which was seen to be decreasing.

But looked at overall, the constellations concerning breast cancer seem to augur well for the coming year, predicting continuing progress on multiple fronts, improved working together, learning from each other, and ensuring that more patients than ever have access to top-quality services.

The main points made by the panelists will be distributed widely in the breast cancer community to help both inform their work and give an overview of where research, treatment, and care is headed in the coming months. “Some of these developments may seem like small steps, but they combine to produce improvements in care for patients and hope for those who treat them,” said Alberto Costa, organiser of the Observatory. “It will be interesting to look back in five years time and see how things have changed.”

THE PANEL

- Monica Castiglione-Gertsch – SAKK/IBCSG (Swiss Group Clinical Cancer Research/International Breast Cancer Study Group), Bern
- Alberto Costa – The European School of Oncology, Milan
- Nancy Davidson – Sidney Kimmel Comprehensive Cancer Centre, The Johns Hopkins University, Baltimore
- Richard Gelber – Dana Farber Cancer Institute, Boston
- Aron Goldhirsch – European Institute of Oncology, Milan
- Stella Kyriakides – Europa Donna/The European Breast Cancer Coalition
- Virgil Craig Jordan – Robert H Lurie Cancer Center, Northwestern University Medical School, Chicago
- Monica Morrow – Northwestern Memorial Hospital, Chicago
- David L Page – The Vanderbilt-Ingram Cancer Center, Nashville
- Gordon F Schwartz – The Breast Health Institute (founder), and Jefferson Medical College, Philadelphia
- Isla Whitcroft – Health Journalist, London