Patients: All 6671 patients (2594 node-negative; 4077 node-positive) from IBCSG trials I-IX fulfilling predefined criteria were included. The treatment consisted of modified radical mastectomy without PRT and adjuvant systemic therapy (i.e., at least three courses of CMF chemotherapy or tamoxifen). Central pathology review had been performed for most patients. Multiple regression modeling of the cumulative LRR incidence was used to identify significant predictors of risk.

Results: At a median follow-up of 9–22 years, LRR (with or without distant failure) was found in 1253 patients. The median number of nodes examined was 14. In the node-negative cohort, vessel invasion increased the risk, and number of nodes examined (postmenopausal) decreased the risk of LRR, but no risk group reached 20% 10-year LRR incidence. In the node-positive cohort, number of positive nodes, tumor grade, vessel invasion (premenopausal) and number of uninvolved nodes were significant predictors. Among patients with 1–3 positive nodes a high tumor grade, vessel invasion and few uninvolved nodes defined a high risk for LRR.

Conclusion: A low number of examined nodes in some trials may explain the reported success of PRT in patients with 1–3 involved nodes. When the median number of nodes examined is higher, tumor grade and vessel invasion may define subgroups of patients with breast cancer and 1–3 involved axillary lymph nodes with such a high risk for LRR that PRT may be indicated.

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ONCOPOOL – A European dataset in 16,893 cases of breast cancer

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The SEER data (Henson 1991, Carter 1989) has long been regarded as providing the best information on the characteristics of breast cancers at diagnosis and on outcomes.

Survival has improved greatly since the 1980's across the prognostic range. ONCOPOOL (FP 5 EC Grant) is a dataset from 11 European units, with QA and long term follow up.

Consecutive cases (n = 16,693) in years between 1990 and 1999 were entered. This has given up to date information on treatments and of Pathology and biological factors at diagnosis and the effect of these on recurrence and survival (Tables 1 and 2)

Table 1. Percentages on Pathology

Tumour size (cm)	0–1	1.01–2	20.1–3	3.01–4	4.01–5
%	26	49	19	5	2
Lymph node status	Negative		Positive <4		Positive >4
%	66		24		10
Grade	I		II		III
%	29		42		29

Table 2. Survival according to Nottingham Prognostic Index (NPI)

NPI Group	% in group	% 10 year survival (actuarial)
Excellent	20	95.6
Good	27	91.4
Moderate I	26	81.7
Moderate II	16	72.7
Poor	11	50.8

A great deal more data on presentation, primary and local and systemic adjuvant therapies, pathological and biological make-up, recurrence and survival outcomes are being analysed, ONCOPOOL should now be regarded as the key dataset.

References

[1] Relationship among outcome, stage of disease and histologic grade for 22,616 cases of breast cancer. Cancer: (1991) November 15, Vol.68, 2142–2149.

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A rare cancer network multicenter study on phyllodes tumor and sarcomas of the breast

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Objective: Phyllodes tumor (PT) of the breast and primary breast sarcomas (PBS) are rare neoplasms. Their management has been mainly based on surgery. The role of adjuvant treatments such as radiation or chemotherapy (RT) remains unclear. The aim of this study was to evaluate the outcome and identify prognostic factors for local control and survival.

Materials and Methods: Data from 443 women with PT of the breast and 103 breast sarcomas were analyzed. For PT patients, the median age was 40 years (12–87) with a median histologic tumor size of 3 cm (0.5–30 cm). Tumors were classified as benign in 284 (64%), borderline in 80 (18%), and malignant in 79 (18%) cases. Surgery consisted of wide excision in 377 (85%) and mastectomy in 66 (15%) cases. Thirty-nine (9%) patients received adjuvant RT (50 Gy in 25 fractions).

In the PBS patients, median age was 55 years (13–86). Median histologic tumor size was 4.45 cm (0.8–22 cm). There were 42 angiosarcomas. Therapeutic strategy consisted of neo-adjuvant chemotherapy followed by loco-regional treatment in 19 patients, surgery alone in 38, and conservative surgery followed by RT in 30 patients. RT as initial treatment was delivered in 50 patients (50 Gy in 25 fractions).

Results: The median follow-up was 106 and 64 months respectively for PT and PBS patients. Multivariate analysis in **PT** showed six favorable independent prognostic factors for local control: benign histology, no cellular atypia, no residual tumor ((NRT) after initial treatment, total mastectomy, negative margins, and association of RT. For DFS, the four favorable independent factors were benign histology, low number of mitosis, NRT after initial treatment, and no personal history of breast disease.

For PBS, multivariate analysis revealed three favorable independent prognostic factors for local control: NRT after initial treatment, no cellular pleomorphism, and histology other than angiosarcoma. For the DFS, the five favorable independent factors were no menopausal status, NRT after initial treatment, histology other than angiosarcoma, absence of tumor necrosis, and histological grade 1–2.

Conclusions: In this large retrospective study of PT and PBS of the breast, the histological criteria of the tumor and the absence of residual tumor after first treatment are the main prognostic factors for outcome. In PT, while benign tumors have a good prognosis after surgery alone, adjuvant RT should be discussed in the management of malignant and borderline forms. We also confirmed the severe prognosis of angiosarcoma.

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Using changes in gene expression as assessed by microarray analysis of sequential tumour biopsies to predict response to neoadjuvant therapy with letrozole

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Selection of patients for endocrine therapy requires the identification of markers which accurately predict response or resistance. The advent of microarray analysis offers the opportunity to identify novel indices of responsiveness.

In the present study changes in gene expression profiles occurring within 10–14 days have been related to clinical response at 3 months in patients treated neoadjuvantly with letrozole. 58 postmenopausal women with large primary ER-rich breast cancers were treated with letrozole (2.5 mg/daily) for 3 months. Tumour biopsies were taken before and after 10–14 days treatment and RNA from the biopsies used to generate cRNA for hybridization on Affymetrix U-133A chips.

Comparison of gene profiles in paired biopsies confirmed that classical markers of oestrogen action (Trefoil factors 1 and 3, LIV-1, KIAA0101) and proliferation (Cyclin D1, Cyclin B2, CKS2, cell division cycle 2) change with treatment. Clinical response was determined from serial ultrasound measurements and was assessable in 52 cases; 37 (71%) responded (>50% reduction in tumour volume) and 15 were classified