O-61. The 2003/04 ABS at BASO audit

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The 2003/04 ABS at BASO audit included 13,290 cancers detected by the UK NHSBSP between 1 April 2003 and 31 March 2004. Overall, 93% of cancers were diagnosed pre-operatively. 96% of invasive cancers and 81% of non-invasive cancers had a pre-operative diagnosis. All regions and all but 1 unit met the new 80% minimum standard for pre-operative diagnosis.

In 22% of cancers with a B5a (non-invasive) pre-operative diagnosis, invasive disease was found at surgery (regional ranges 12%-36%). Conversely, only 95 cases (1%) with a B5b (invasive) pre-operative diagnosis were found to have non-invasive or micro-invasive cancer after surgery. 2,777 diagnostic open biopsies were performed during the period, of which 34% (952 cases) were malignant. 84% of women who had diagnostic surgery had their open biopsy within 2 months of assessment. 94% of women with a pre-operative diagnosis had their therapeutic surgery within 2 months. The overall median waits were 33 and 28 days respectively.

Overall, 13% of invasive cancers and 18% of non-invasive cancers underwent more than one surgical operation. Invasive cancers with a B5a (non-invasive) pre-operative diagnosis had the highest repeat operation rate (47%).

Data will be presented on the performance of the regional breast screening services against national standards and current best practice.

O-62. Results from the breast cancer clinica outcome measures (BCCOM) project: year 1 (2002 data)

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The BCCOM Project aims to set up routine methods to support the effective and confidential collection and analysis of data relating to UK symptomatic breast cancer patients and to use the data collected to develop outcome measures and monitor performance against the recently published symptomatic breast cancer treatment guidelines[1].

In collaboration with the cancer registries an agreed dataset for cancers diagnosed 1st Jan 2002–31st Dec 2002 was sent to UK ABS at BASO registered surgeons who had agreed to participate in the audit for validation. Surgeons were encouraged to check their own data but could submit data unchecked into the main audit.

Data were received from 130 ABS at BASO registered surgeons and 7 non registered surgeons contributing a total of 11,609 cases. 52 surgeons checked or partly checked their data (4286 cases, 37%). The overall data quality was good for all data items apart from ER, PgR and HER2 status and TNM stage. 92.6% cases were invasive. 95% of cases had a histological diagnosis of cancer. 37% of cases underwent a mastectomy, 42% had breast conserving surgery, 12% had no surgery and for 9% of cases the type of operation was unknown. Between surgeons the mastectomy rate varied from 17.5% (caseload of 57 cases) to 77.1% (caseload of 70 cases). Further analysis will be undertaken to examine the relationship between this rate and total number of cases seen and case mix. Overall, 54% of cases had hormone therapy, 59% had chemotherapy and 63% had radiotherapy. The proportion of cases undergoing chemotherapy and radiotherapy decreased with age while the proportion of cases having hormone therapy increased.

Reference: 1 Guidelines for the management of symptomatic breast disease. EJSO (2005) 31, SI-S21.

O-63. How Carlisle made the BASO database clinician friendly

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The activities of our breast team are recorded in the BASO database (v3.0.3 for Access2000/XP). This database launched about 10 years ago is extremely comprehensive in content and comes with many reporting tools. However it is notoriously difficult for clinicians to calculate survival or recurrence free statistics selected against operation type or prognostic group. In North Cumbria with a population of 330,000 there have been referred 10031 patients over 10 years including 1066 cancer patients. There have been 1776 operations, 1896 pathology summaries and 74 patients with local or regional recurrence at follow up visits

A simple toolkit has been developed in Microsoft Excel using Visual Basic from which an external query is able to produce outcome information useful to clinicians. A description of the method, user interface and analysis options will be demonstrated together with the software environment, speed of the analysis and the presentation options. Local and regional recurrence rates as well as relative survival rates can also be produced according to Nottingham Prognostic Index (NPI) and other parameters.

NPI	Actuarial survival rates	
	5 year	10 year
Excellent	100	100
Good	91	80
Moderate I	87	68
Moderate II	79	59
Poor	57	42

On a mid range PC running Windows XP a family of NPI survival curves can be produced in about 45 sec.

O-64. Post mastectomy radiotherapy index

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International consensus supports the routine use of adjuvant chest wall radiotherapy (CWRT) after mastectomy and systemic therapy for Invasive Breast Carcinoma at high risk of loco-regional recurrence LRR (tumours ≥5cm in diameter or with 4 or more histologically involved axillary nodes (Recht et al, 1998)). The value of CWRT in women at intermediate

risk of LRR with 1–3 involved nodes after mastectomy and a 10 year risk of loco-regional recurrence of less than 15% is uncertain and is to be addressed in the SUPREMO trial.

An in-house Post Mastectomy Radiotherapy Index has been adopted to stratify patients for radiotherapy according to their known risk factors.

Score		
3	2	1
Nodes ≥4 Tumour size >50 mm/T4 Deep margin <1 mm or pectoral muscle involvement	Nodes 1–3 Tumour size 30–50 mm	Vascular invasion Tumour size 20–29 mm Grade III

Patients receive radiotherapy to the chest wall if score ≥3. (This score selects patients at higher risk of systemic relapse with a minimum Nottingham prognostic index >3.4 or 10 yr survival of <74% on adjuvant online.)

We have carried out an audit of breast cancer patients treated with chest wall radiotherapy registered in our database (JCIS).

Results: Between May 1999 and May 2003, 433 breast cancer patients treated with mastectomy have been found. The average age was 59 and the average duration of follow up was 32 months.

	No	Distal Recurrence	LRR
High Risk	104	16	4
Index score ≥3	107	6	1
Index score <3	144	0	0
DCIS/Prophylactic	78	0	0

All LRR were associated with systemic recurrences.

Conclusion: The selection of patients at higher risk of recurrence in the intermediate group who may benefit from CWRT is possible using an index as shown above.

O-65. Chromosome 16 tumour suppressor gene in breast cancer: where are we now?

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Loss of heterozygosity at the long arm of chromosome 16 is one of the most frequent genetic events in breast cancer, indicating the presence of one or more tumour suppressor genes (TSG). E-cadherin has been proved to be the TSG at 16q in lobular tumours. In search for the target gene (s) in the more frequent low grade ductal and tubular tumours, this region of the genome has been exhaustively studied to track down the smallest region of overlap (SRO). However, the results demonstrate remarkable complexity and a clear consensus of the boundaries of the SRO (s) could not be identified. Several genes located in the vicinity of these SROs have been examined as candidate TSGs in breast cancer, but so far, none of them was considered the target gene. In our effort to identify the target TSG, we have used a novel approach (MAPH) to minimise the SRO at the region 16q22.1 and examined several individual genes located in the vicinity of this region. We are currently analysing several other genes that showed differential expression between ductal and lobular tumours identified in gene expression analysis experiments incorporating 368 genes located on chromosome 16. In addition, a new approach using the tiling pathway array CGH to map chromosome 16 DNA copy number alterations in breast cancer with high resolution is currently underway. This is combined with gene expression analysis using a custom array chip that includes all genes encoded on chromosome 16. This approach will provide the most robust data about 16q TSG in breast-cancer.

The present article will discuss the complexity of the region 16q, the different approaches used for detection of the target gene in this area including our previous, current and future work.

O-66. Differences in presentation of lobular, ductal, mixed and special type breast cancer

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Lobular carcinoma (LC) of the breast accounts for 10% of all breast cancers and it has been suggested that it is more often bilateral and more difficult to diagnose when compared to ductal carcinoma (DC). We performed a 5 year retrospective audit (1998–2002) of all histologically proven breast cancers treated in this unit to ascertain whether there was indeed a difference in presentation of the different tumour types. In total 424 breast cancers were treated, 312 DC, 54 LC, 19 mixed (lobular and ductal) carcinomas (M) and 34 special types (ST).

Chi-squared testing showed no statistically significant difference in the frequency of bilaterality of the cancers (9% LC, 5% DC, 5% M, 3% ST) or their identification on mammography as suspicious of (M4) or diagnostic of (M5) malignancy (69% LC, 81% DC, 81% M, 66% ST). However, there was a statistically significant difference in the USS identification of these cancers as suspicious of (U4) or diagnostic of (U5) malignancy, $p = 0.001$. Interestingly, this was not due to a difference between LC and DC but between ST and all other cancers (94% LC, 93% DC, 80% M and 73% ST). This effect was maintained when considering those cancers which were not identified by any radiology as suspicious of malignancy (RI-R3 inclusive). 6% LC, 5% DC, 13% M and 23% ST fell into this category, $p = 0.003$.

Our data do not support widely held beliefs on lobular cancer but do suggest that special type breast cancers are more difficult to identify radiologically.

O-67. An audit of clinical and radiological characteristics of medullary carcinomas of the breast

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Medullary breast cancer may masquerade as a benign entity owing to its distinctive features. Records were retrieved for 59 patients from a continuous series of 75 medullary breast cancers from 1990 to 2005. The majority were symptomatic at presentation (lump-42 patients; pain-1 patient); 16 patients were detected at screening. Scores on clinical evaluation (P), mammography (R), and ultrasound (U) were evaluated.