

Conclusion: HER2 positivity and high proliferation predicts recurrence in DCIS after BCS with clear margins. Small molecular inhibitors targeting HER2 may be beneficial in reducing recurrence after BCS.

O-55. Management of lobular carcinoma in situ within the NHSBSP

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Background: The treatment of LCIS has changed radically in line with the change in belief that LCIS is a marker of risk instead of a true disease entity.

Aims: To review the management of all cases of LCIS identified within the NHS breast screening programme.

Methods: Data on 366 cases of screen detected LCIS was collected. The clinical management of each case was reviewed including surgical and adjuvant treatment as well as the mammographic and clinical follow up of these cases.

Results: Of 366 cases identified, 4 women had initial unilateral mastectomies, 9 had biopsy only and 353 had a form of localisation biopsy. 1686 women-years of follow up were available on 321 LCIS cases. Of these, 51 patients had further surgery including 9 who had bilateral mastectomy, 8 had unilateral mastectomy, 28 had margin excision, and 6 had wide lump excision. 67 received tamoxifen and 9 received radiotherapy. 30/320 received mammography at an interval of > one year. 35 women received no clinical follow up and 5 women received clinical follow up of > one year intervals. Incidence of subsequent breast cancer within this population amounted to 15.4/1000/year.

Conclusions: Management of screen detected LCIS varied considerably. LCIS was associated with a roughly 5-fold increase in breast cancer risk suggesting these patients should be followed up clinically and mammographically more regularly than in the routine screening programme.

O-56. Optical diagnostics in ductal carcinoma in situ (DCIS) of the breast to differentiate between different grades of pathology

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Ductal carcinoma in situ (DCIS) is detected more often since the advent of mammography. A standardized staging and grading system does not exist. The aim of this study is to determine whether chemical finger printing using optical spectroscopy can differentiate between the existing accepted grades and improves the grading system.

At the Biophotonics Research Centre, Gloucester, a team of research scientists, surgeons and a breast specialist pathologists are working to improve the understanding of breast diseases using Raman and infrared spectroscopy. The ducts were carefully marked on a H&E section by a pathologist. Raman spectra were measured, using a Renishaw Raman Spectrometer, on a 20-micron thick consecutive frozen section.

The spectral data were analysed using Matlab. Analysis of selected regions of the duct, especially epithelial and basement membrane regions in high grade comedo DCIS and from low to intermediate group DCIS revealed increased collagen and decreased lipids in relation to specific regions. There is also some degree of differentiation in the concentrations of triolein, choline, actin and DNA between these different pathology groups in different regions. A principal component spectral model has been constructed to show the differentiating components between the two pathology groups.

Optical spectroscopy can be used to accurately differentiate between different grades of DCIS *in vitro*, and therefore shows the potential to provide an objective method to grade DCIS. Work is ongoing to increase the sample size of this study and also to assess the progression of pathology of proliferative breast lesion to malignancy.

O-57. Pain syndromes affect quality of life after mastectomy and breast conserving surgery

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Chronic pain following breast surgery for cancer in mastectomy patients is well described (post mastectomy pain syndrome), but there is little data on its impact on the quality of life. Pain syndromes in women undergoing breast conserving surgery (BCS) are not well described.

Modified UCSF (University of California San Francisco) quality of life pain questionnaires were given to 600 patients who had unilateral surgery (mastectomy, BCS) attending the primary breast cancer follow-up clinic from 2004 to 2005. Exclusion criteria included reconstruction, or further surgery for local/regional recurrence. All patients had a minimum of one year follow up, and were under 70 yrs.

Of 306 patients who have completed the questionnaire to date, 186(61%) complained of significant pain. In 22%, the pain was severe enough to affect the daily wearing of a bra and/or clothing. 10% needed regular analgesia to alleviate symptoms. 62% were fearful that the pain represented an indication of cancer recurrence. In analysis by operation type (mastectomy vs. BCS, 47% vs. 53%), there was a greater incidence of pain in the lumpectomy group ($p = 0.02$). The pain was limited to the breast region and not the axilla ($p = 0.05$). This effect persisted when controlled for radiotherapy. No significant difference was found between the types of pain (e.g. shooting, stabbing), fear of cancer recurrence, depression, and effect on personal relationships.

This study shows that pain syndromes occur in a high proportion (60%) of patients who undergo breast surgery. The long term morbidity associated with BCS is possibly under reported in the current literature. This study suggests that such pain syndrome not only affects patients' quality of life, but may also represent a psychological fear of cancer recurrence. Such patients need to be identified and offered reassurance and/or treatment when appropriate.