The authors provide an overview on the subject of ductal carcinoma in situ. This included a description of the history of understanding with regard to the disease, the morphologic subtypes, prognostic indices, the algorithms developed with regard to the management of the disease, and the research associated with multi-gene expression assays on DCIS. The authors provide the evidence that the majority of newly diagnosed DCIS can be treated adequately with surgery alone. The surgery requires clear margins of resection. A certain percentage of patients will require radiation to the breast to achieve acceptable local control, and some patients require a mastectomy. The initial major trial concerning the management of DCIS was the NSABP-B17 trial commenced in 1986, the results published only in 1993. The trial compared surgery with radiation therapy versus lumpectomy alone for DCIS, and similar trials in the UK and Europe studies also showed a 50% reduction in local recurrence rates affected by radiation therapy. However all of these trials did not differentiate prognostic indices with regard to the tumour itself, namely size, margin width and grade, and these data were not available retrospectively.

The University of Southern California/ Van Nuys prognostic index is an algorithm, stratifying the risk of local recurrence in patients with DCIS following adequate treatment. The index is based on five prognostic factors including age, tumour extent, margin width, nuclear grade, and the presence of necrosis.

It is uniformly agreed, and has been established in scientific studies, that a clear margin of resection is required in the surgical excision of DCIS. This margin should preferably be more than 2mm, but less than 2mm is “acceptable” provided there is clearance. The NSABP-B24 study was a randomised trial to assess the place of Tamoxifen, after adequate surgery and irradiation for DCIS, in ER positive patients. Similarly a second study has also assessed this subject namely the UK/ANZ trial. Most trials showed inconclusive results. Tamoxifen carries risk, due to side effects, and the benefit would be limited to a degree of prophylaxis provided with regard to further breast disease in the patient.

Dr Currer’s comment:
The key issue in patients with DCIS is the grading of the disease. Low grade DCIS simply requires adequate excision with clear margins. High grade DCIS and in particular where necrosis is present, requires adequate surgical excision followed by radiation treatment where breast conservation surgery is maintained. Extensive DCIS warrants a total mastectomy with or without immediate breast reconstruction. A large area of high grade DCIS would warrant a sentinel lymph node biopsy given the concern about micro-invasive disease within the DCIS not shown on the core biopsy. The role of Tamoxifen or an Aromatase inhibitor is uncertain.