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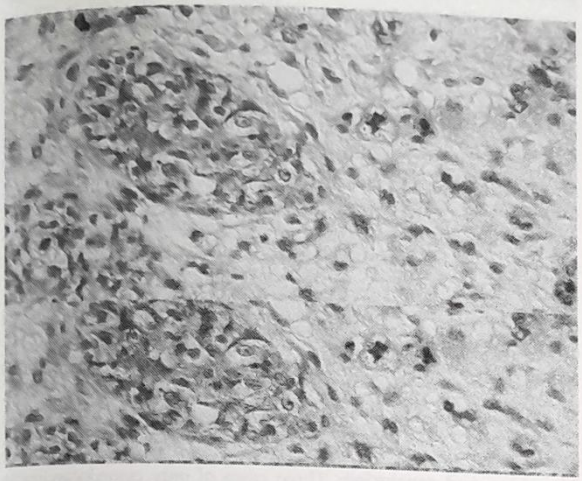

Figure 1. The tumour with distinct carcinomatous component.

Figure 2. Malignant fibrous histiocytoma like component.

P.01.559

A multiobserver study of the use of static telepathology in the histopathology diagnosis of routine unselected needle core biopsies of the breast (BNCB)

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Introduction: Telepathology has been shown to have value in some areas of pathology but there are few published studies looking at the routine remote diagnosis of specimens.

Aims: To assess the telepathology diagnostic agreement between multiple observers on BNCB.

Materials and methods: 50 consecutively received BNCB were sampled into offline telepathology files by a dedicated telepathology research assistant who was a biological science graduate with 6 weeks' experience of histopathology. The files were sent electronically to a second hospital where they were viewed on a telepathology workstation (PathSight, Fairfield Imaging Limited) by three consultant histopathologists. Diagnoses were recorded using the UKBSP nomenclature. The consultants then viewed the glass slides and recorded their diagnoses in an identical manner.

Discussion and conclusion: There was perfect agreement between all observers on the telepathology images using a two category benign and malignant (B5a & B5b) system. There was virtually perfect agreement between glass slide and telepathology diagnosis with just one case classified as suspicious on glass slide and definitively malignant on telepathology. Static telepathology with a non-pathologist image capture technician produces a high level of accuracy suitable for a routine diagnostic service for breast needle core biopsies.

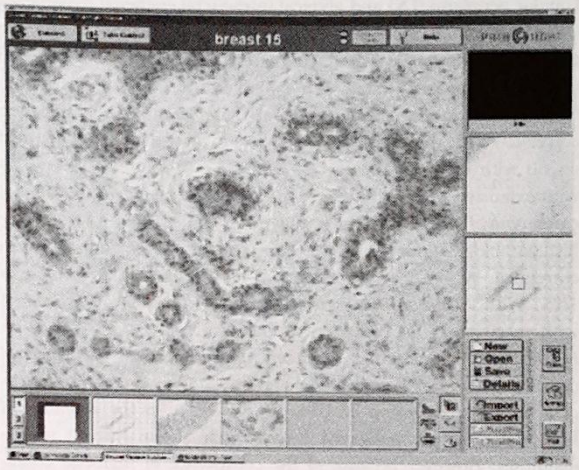

Figure 1. Telepathology images of a BNCB.

P.01.560

HER2/neu expression in correlation with p53 and Ki-67 immunoreactivity and clinicopathological parameters in breast cancer patients

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Introduction: Although the role of HER2/neu status is still unsettled, its determination is valuable in selecting breast carcinoma patients for adequate Herceptin' therapy.

Aims: The purpose of this study was to evaluate the association among HER2/neu, p53 and Ki-67 immunoreactivity, as well as clinicopathological parameters (tumour size, histopathologic grade, nuclear grade, tumour type, lymph–node status and age) in breast cancer patients.

Materials and methods: HER2/neu, p53 and Ki-67 expression was determined in 169 post-operative stage I-III (UICC, 1997) breast cancer patients using the standardized DAKO HercepsTest' and by immunoperoxidase technique, respectively. The results were evaluated by performing the standardized scoring system.

Discussion and conclusion: HER2/neu expression was positive in 66 patients (37%). There was no association between HER2/neu expression and p53 or Ki-67 immunoreactivity, as well as any clinicopathological parameter, while the values of Ki-67 and p53 were

strongly interrelated ($P < 0.001$). Ki-67 was also in significant correlation to tumour size, lymph-node involvement and tumour type ($P < 0.001$), while p53 was only related to patients' age ($P < 0.01$). These results indicate that HER2/neu is an independent prognostic marker in differentiating a subgroup of high-risk breast cancer patients. Additional studies are required to adjust HER2/neu testing results to clinical outcome.

P.01.584

High risk and pre-malignant breast lesions diagnosed by core biopsy: is excision necessary?

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Lobular neoplasia (LN) and atypical intraductal epithelial hyperplasia (AIDH) carry an increased likelihood of development of invasive carcinoma. Low-grade intraductal carcinoma (LGIDC) is considered to be a pre-invasive lesion. We evaluated the implications of core biopsies (CB) in the management of these lesions when they are correlated with the excisional biopsies. 117 patients were diagnosed on CB with high-risk lesions: 19 with LN-s, 79 with AIDH and 19 with extensive AIDH with one or more foci suspicious for intraductal carcinoma (IDC). 154 cases diagnosed on CB as LGIDC. The histopathologic findings of the core and excisional biopsies were correlated. With LN on CB there was carcinoma in the excision in 10%. With AIDH on CB, excision revealed IDC in 4%. With AIDH with suspicion of IDC, excision revealed at least IDC in 47%. With LGIDC by CB, excisional specimen showed a high incidence of coexisting high-risk lesions (33%) and the excision also showed areas of a higher-grade lesion in 10%. CB is reliable in the diagnosis of high risk and pre-malignant lesions with a low rate of under-diagnoses. However because of the coexistence of high-risk conditions with extensive atypical lesions or LGIDC, surgical biopsy is necessary.

P.01.589

Clinical impact of apoptotic genes in the pathogenesis of breast cancer

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Breast cancer is a heterogeneous disease with a varied clinical course and response to treatment. Apoptosis loss may promote tumour progression by allowing the acquisition of additional mutations. We investigated the relationship between apoptotic loss, bcl2, Bax, p53, p21WAF and Her2/neu expression and their clinical impact in invasive breast cancer (IBC), carcinoma *in situ* (CIS) and epithelial hyperplasia (EH). We analysed 14 cases of EH, 20 CIS and 33 IBCs using the DNA ladder assay, TUNEL and immunohistochemistry. There was significant overexpression of bcl2, p53 and Her2/neu, down-regulation of p21WAF, Bax and a low apoptotic index (LAI) in IBC ($P = 0.001$) and CIS ($P = 0.02$), whereas in EH, overexpression of Bax was associated with a high AI. Multivariate logestic regression modelling showed that: overexpression of bcl2, Her2/neu and a LAI are significantly associated with bilaterality and recurrence in CIS ($P < 0.0001$), high histologic grade ($P = 0.025$) and nodal metastasis ($P = 0.001$) in IBC. Whereas overexpression of Her2/neu, absent p21WAF and LAI were associated with shortened survival and poor response to therapy.

Conclusion: Loss of apoptosis and alterations in apoptosis-regulating genes are involved in the pathogenesis of IBC from its probable precursors and may possess a predictive prognostic value in CIS and IBC patients.

P.01.590

Fine needle aspiration cytology diagnosis of comedocarcinoma

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Introduction: Distinguishing comedocarcinoma from high grade invasive ductal carcinoma (IDC) with extensive necrosis by FNA cytology is difficult since both entities contain pleomorphic malignant cells in a background of necrosis.

Aims: In this study, we review our experience with the FNA diagnosis of comedocarcinoma.

Materials and methods: All surgical pathology (SP) cases diagnosed as either pure comedocarcinoma or comedocarcinoma with microinvasion were identified. All corresponding FNA reports and microscopic slides were retrospectively reviewed.

Discussion and conclusion: Three cases of pure comedocarcinoma and one case of comedocarcinoma with microinvasion with corresponding FNAs were identified. The patients' mean age was 44.3 and the mean diameter of the tumours was 2.3 mm. In all cases, the FNA diagnosis was 'ductal carcinoma (DC) with extensive necrosis.' One patient with presumed advanced IDC received neoadjuvant cytotoxic chemotherapy followed by modified radical mastectomy (MRM) and axillary lymph node dissection (ALND). Two other patients received MRM + ALND and one underwent a lumpectomy with sentinel node biopsy. Since pure comedocarcinoma is rare and its surgical treatment is identical to that of IDC, we believe that our current policy of treating patients on the basis of an FNA diagnosis of DC can be retained.

P.01.661

Accuracy of typing and grading invasive mammary carcinomas (IMC) on core needle biopsy compared with the excisional specimen

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Introduction: Breast core needle biopsy (CNB) specimen allows evaluation of histologic prognostic and predictive factors on IMC but the accuracy of this information is not well established.

Aims: We test The CNB accuracy on typing and grading of breast carcinomas.

Materials and methods: This was a double-blind study using 120 CNB and there related surgical specimens. Type and grade were assigned according to WHO classification and the Nottingham grading system.

Results: The CNB histologic type has matched surgical specimen evaluation in 80/120 cases (66.6%). Only 17 cases (14.2%) changed to different prognostic category, based on prognostic categories for IMC. Histologic grade comparison was accurate in 56/95 cases (59.0%, $\kappa = 0.35$). The evaluation of histologic grade components (tubular and nucler grade and mitotic index) showed concordance in 54.7, 58.9 and 62.1%, respectively.

Discussion and conclusions: Typing of breast carcinomas on CNB could be routinely assessed based on good correlation with surgical specimens, especially considering prognostic categories for IMC. In contrast, grading of breast carcinomas on CNB is not so accurate, so its evaluation should be delayed until examination of the surgical