105 POSTER

Radioguided localisation and open surgical biopsy of non-palpable suspicious breast lesions

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The choice of the technique for elucidating non-palpable suspicious breast lesions, detected by mammography, is still controversial. We are here presenting our experience with one of these techniques, the ROLL (radioguided occult lesion localisation) method. A total of 71 patients with abnormal mammography and non-palpable breast lesions (49 BI-RADS 4 and 22 BI-RADS 5) were studied. The day before surgery a 20-gauge needle was placed into the centre of the lesions under stereotaxic guidance by mammography followed by an injection of 0.2 ml of dextran labelled with technetium 99m. Open surgical biopsies were performed on the next day guided by gamma probe and the specimens were radiographed to confirm lesion excision. In all cases mammography of excised tissue showed the lesions presence within the specimens. Thus the lesions removal rate was 100%. In most of the cases, 65/71 (91.5%), lesions were removed in the first 3–4 cm of tissue excision, and in the remainning other 6 (8.5%) it was needed another resection to remove them. It was observed that ROLL technique generally allowed good lesion centring and small excising volume. Patient's acceptance was excellent and there was not any remarkable complication. Final histopathological results were: infiltrating carcinoma 27 (38.1%), ductal in situ carcinoma 14 (19.7%) and benign alterations 30 (42.2%). It was conduded that ROLL is a valid alternative for biopsy of suspicious non-palpable breast lesions with advantages over wire hook guided biopsy.

106 POSTER

Intraoperatory Radiolocalization (RLI) and Sentinel Lymph Node Biopsy (SLNB) in Ductal Carcinoma In-Situ (DCIS): our experience

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Introduction: DCIS of the breast is an heterogeneous group of lesions with different malignant potentials, controversial classification criteria and treatment protocols: our study proposes to evaluate the Lymph Nodes status by SLNB in DCIS lesions classified according to Tavassoli's DIN criteria.

Materials and Methods: From January 2000, 75 pts with high radiological suspect for malignant lesions were enrolled: 45 microcalcifications (60%), 17 nodules (23%), 10 nodules + micro (13%), 3 parenchimal distortions (4%). All pts, within 24 hours before surgery, underwent an intra-perilesional injection of 0.1 ml of Nanocoll® radiolabelled with 800μCi of 99m-Tc to identify the lesion and the Sentinel Lymph Node (SLN). All patients performed lymphoscintigraphy (LSG). The surgical procedure included RLI and excision of the tumor, and its Frozen Section Evaluation (FS). When the frozen section analysis confirmed for a DIN 1c, DIN 2–3, SLNB was performed at the same surgical time.

Results: The preoperative LSG identified SLNs in 74 (98.7%) carcinoma pts (in 2 cases the SLN was exclusively located in the omolateral Internal Mammary Chain (IMC); in 3 cases both in IMC and omolateral axilla). The primary breast lesions were located and excised in all cases (identification rate 100%); 87 axillary SLNs and 8 IMC SLNs (mean 1.28/pt) were biopsed. Definitive histological evaluation revealed: 6 DIN1a, 10 DIN1b, 18 DIN1c, 10 DIN2, 20 DIN3 and 11 DCIS with microinvasion. Four SLNs with metastatic disease (2 micro and 2 macrometastases) came from 4 pts with T1mic (respectively 3 DIN3 and 1 DIN1c at FS). The complete axillary lymph node dissection performed didn't reveal addictional metastatic disease.

Conclusions: Our results indicate that the one-time realization of RLI and SLNB is a significant step forward in the search for a correct stadiative, therapeutic and surgical approach to intraductal neoplasia of the breast.

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PROFFERED PAPERS

Screening, detection and diagnosis

107 ORAL

Prevalent and incident rounds in a breast cancer screening program with mammography and MRI for high risk women

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Background: The MRISC study is a Dutch national multicentre prospective study for MRI screening in women with a familial or genetic predisposition for breast cancer. Participants were screened by a 6-monthly clinical breast examination (CBE) and yearly MRI and mammography with an independent evaluation. We found that screening facilitated breast cancer diagnosis in an earlier stage than in symptomatic age-matched controls. On average the relative sensitivity for mammography was in this study 43% and for MRI 74%, the false positive rate was 5% and 11% respectively. We concluded that MRI is a more sensitive screening method than mammography in this group, but less specific. But screening parameters can differ in different rounds of the program, especially in the first round compare to subsequent rounds. We investigated if positive tests and positive predictive values (PPV) are stable in the different rounds, the detection rate and tumor characteristics of prevalent and incident cancers and if screening parameters from first imaging tests differ from subsequent imaging tests.

Material and methods: From November 1999 to December 2002 we included 1874 women with a median follow-up of 2.1 years. In this group we found 39 breast cancers. Screening parameters were analyzed per screening round and first and subsequent mammography and MRI. We defined an imaging test with BI-RADS score 0, 3, 4 or 5 (probably benign or worse) as positive, because those were the cut-off points for additional examination.

Results: The positive test rate varied from 2.3% to 3.2% for CBE, 3.9% to 6.8% for mammography and 7.9% to 13.2% for MRI and PPV from 0 to 9.1% for CBE, 6.3% to 11.1% for mammography and 3.1% to 11.2% for MRI in the different screening rounds. The detection rate per 1000 tests in prevalent imaging rounds was 14.6 for mammography and 10.9 for MRI and for incident rounds 6.3 for mammography and 7.7 for MRI. From the prevalent cancers was 17% $\leq$ 1 cm and from the incident cancers 50% (p=0.21). The node negativity rate was 83% in the prevalent cancers and 74% in the incident cancers (p=0.63). The most women (83%) were screened before the study by CBE and mammography. There were 323 women who get a first mammography and 1729 who get a first MRI in this study. In first mammographies the false positive test rate is 6.7%, this is 1.4 times higher than in subsequent mammographies (false positive test rate 4.7%, p=0.13). In the first MRIs the false positive test rate is 13.1%, this is 1.5 times more than in subsequent rounds where this is 8.6% (p<0.001).

Conclusions: For all 3 screening modalities positive test rates and PPV are reasonably stable over time. The detection rate in the prevalent screening round is higher than in incident rounds. Prevalent cancers are larger than incident cancers. For both imaging modalities specificity increased in subsequent tests compared to first imaging tests.

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108 ORAL

The frequency of breast cancer screening: results of a randomised trial

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This randomised trial in 110,000 women between 1989 and 1996 compared screening at the standard interval of 3 years (Controls – C) with screening annually (Trials – T), in women aged 50–64. A previous analysis used the Nottingham Prognostic Index (NPI) to predict outcomes of invasive carcinoma diagnosed; these predictions were based on observed survivals