P8

Expression of the Trefoil Protein TFF3 in Human Breast Cancers

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Trefoil factors are small proteins that are secreted from mucus secreting epithelia. Mitogenic actions of trefoil proteins may help tumour cell invasion and metastasis. TFF3 mRNA expression is regulated by oestrogen in breast cancer cell lines. Association between oestrogen receptor and TFF3 mRNA expression has been demonstrated in breast tumours. TFF3 protein has not been analysed previously in human breast cancers. A tissue microarray was constructed from 500 primary breast tumours and 36 metastatic deposits. TFF3 expression was evaluated by immunohistochemistry with an antibody raised against correctly-folded human TFF3. The intensity of immunoreaction in 1,000 tumour cells was evaluated as absent, weak, moderate or strong. The association of TFF3 expression with clinico-pathological features and with oestrogen receptor expression was tested statistically with SPSS software ($p<0.01$). TFF3 is expressed in normal and malignant breast epithelial cells and not expressed in stromal, endothelial or immune cells. Expression of TFF3 varied enormously between tumours, 216 cases were positive. TFF3 expression is highest in mucinous and lobular breast carcinomas. It is expressed at higher levels in lobular than in ductal cancers. TFF3 expression is associated strongly with oestrogen and progesterone receptor expression. There is a negative association between TFF3 expression and tumour grade. There is however a positive association between TFF3 expression and presence of vascular invasion and presence of axillary LN metastasis. TFF3 expression is higher in metastatic breast tumour cells than in primary breast tumour cells. The association between TFF3 and oestrogen receptor suggests that TFF3 expression is dependent on oestrogen in breast tumours. The high expression of TFF3 in breast tumours with vascular invasion and in metastatic tumour cells supports the hypothesis that TFF3 predisposes towards breast cancer cell invasion.

P9

A Falsely Positive (C5) FNAc from a Lymph Node with Benign Vascular Transformation of the Sinuses (VTLNS)

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A 70 year old woman presented with a symptomatic breast lump while part of the breast screening programme. Mammography demonstrated a calcified mass, 30mm diameter and a 9mm, radiologically indolent brain, ipsilateral axillary lymph node. Ultrasonography of the symptomatic mass was sonographically malignant (US). The axillary (all) lymph node had an sonographically indolent/innate echogenic centre. Ultrasound guided needle core biopsy showed Grade 2 IDC. The cytology smear from the axillary lymph node was reported as falsely positive for carcinoma cells (C5). A right mastectomy and axillary node clearance was performed. Histological examination demonstrated a Grade 3 IDC with high grade comedo ductal carcinoma in situ. Pathological node status of the specimen was ascertained from 19 lymph nodes in the tail of the mastectomy specimen (level 1 nodes), nine in a separate piece of tissue incorporating level II nodes (largest 15mm) and 4 level III nodes in a piece of apical tissue. All 32 lymph nodes examined were free of tumour (pT2, pN0, pMx). However several showed characteristic VTLNS with an intra-sinusoidal proliferation of endothelial cells stainable for VWF accompanied by an intra-sinusoidal fibrous reaction. Pre-operative staging of the axilla using FNAc can triage women with operable breast cancer prior to an initial nodal surgical procedure. VTLNS is an example of a benign process that can simulate metastatic involvement of a lymph node by carcinoma diminishing the accuracy of this test.

P10

Hypersensitivity Pneumonitis-like Changes in Patients Treated for Haematological Malignancy–in an Abnormal Immunologic State What Disease Process Does it Reflect and is it Under Diagnosed?

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The development of pulmonary complications is common in patients with haematological malignancy and is associated with significant morbidity. The main differential diagnoses for clinically significant lung abnormalities include infections and drug reactions. As this differential diagnosis is important in determining patient management open lung biopsies are being performed in cases with equivocal radiological findings.
We reviewed all open lung biopsies performed on haematology patients over a one year period. The predominant histological findings were those of hypersensitivity-like pneumonitis rather than obvious viral or fungal infections. This may reflect patient preselection however it is unclear whether this pattern of lung infiltration represents an incomplete immune response to an infective trigger or whether it reflects true drug/ hypersensitivity reactions which are under diagnosed in altered immunologic states and might occur more commonly than previously thought.

P11

Sudden Cardiac Death (SCD) in Individuals with a History of Alcohol Use with or without Antipsychotic Medication and/or Class A-C Drugs.

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Alcohol-related deaths in the UK have steadily increased, rising from 4,023 in 1960 to 9,023 in 2008. Most are non-cardiac. This study aims to highlight cardiac causes particularly within the younger generation. One hundred and sixty-five cases of SCD with a history of alcohol were referred to our specialist cardiac pathology centre from January 1986 to February 2010. Drinking patterns were categorised into 4 groups: alcohol prior to death (n=100), binge drinker (n=32), chronic alcoholism (n=64, of which almost half had fatty liver/cirrhosis and 8 had alcohol withdrawal) and moderate to heavy drinker (but could not be classified into binge or chronic (n=21). The majority of cases were young males (n=114, 69%), mean age 35±12.8 years, range 15-76 years. Adolescents (<20 years) made up 10% and 40% were <30 years of age. Some also took class A-C drugs (n=47) and/or had mental health problems taking antipsychotic medication (n=26). An important finding is that half died suddenly with a morphologically normal heart at both macroscopic and microscopic level (n=83), strongly suggesting the possibility of channelopathies, e.g. Brugada and long/short QT. Additionally, these SCD may have occurred through a fatal arrhythmia precipitated by alcohol use. Cardiomyopathy was also a dominant cause of death (n=49) followed by coronary artery pathology (n=16). Other important causes were toxic myocarditis (n=11), CHD (n=6), aortic dissection (n=1) and an AV nodal tumour (n=1). This study highlights the importance of SCD linked to a history of alcohol use. Our study also raises awareness of SCD in individuals that had consumed non-toxic levels of alcohol just prior to their death and emphasises the risk of the pro-arrhythmic effects of alcohol in those who have underlying cardiac conditions.