0792: “R” SHIVER ME TIMBERS: CLINICIANS DOING STATISTICS! A NOVEL APPROACH TO DATA ANALYSIS AND DATA VISUALISATION IN MODERN MEDICINE, AN EXAMPLE USING CHRONIC LYMPHOCYTIC LEUKAEMIA (CLL) DATA

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Aim: To analyse pre-existing clinical and laboratory data on CLL patients, explore relationships between immune cell markers and prognosis and find novel ways of presenting large, complex datasets in simple visual forms.

Method: Data was analysed using the software environment “R”. Computer programming scripts were generated to analyse the dataset using multivariate analysis and 3D correlation graphs.

Results: Three statistically significant (p<0.05) novel prognostic markers were discovered and trends towards significance were seen in a further two. Four novel visualisations were produced depicting the change in immune cell populations with age and how these changes are distinct to those seen in CLL.

Conclusions: The five novel prognostic markers discovered have already led to new research threads and may have significant clinical use. The four visualisations have already been used in demonstrations to a lay audience.

Computer programming and data visualisation is an under-exploited tool in all aspects of medicine. Although the quantity of literature has increased exponentially, methods of analysing complex data and presenting it in a simple, meaningful form is severely lacking. Although this project used CLL data, showing and explaining data to patients is part of the daily routine for the modern clinician, in all fields of medicine.

0929: CALOT’S TRIANGLE. A COMMON MISCONCEPTION OF BASIC ANATOMY

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Aims: Dissection of the Calot’s Triangle (CT) is regarded as the key component to a safe laparoscopic cholecystectomy. Yet, JF Calot in his doctoral thesis of 1891, named the boundaries of his triangle as: the cystic duct, the common hepatic duct and the cystic artery. This study aimed to review the medical literature on the description of CT.

Methods: A focussed search was undertaken to evaluate the following: basic anatomy textbooks, surgical textbooks and pubmed (articles about CT published in 2011).

Results: Two commonly used textbooks (Last’s and Gray’s anatomy) inaccurately described the inferior border of the liver as one boundary of CT instead of the cystic artery. Similarly, the “oxford handbook of clinical surgery” and ‘essential general surgical operations by Churchill Livingstone’ made the same error, 17 peer reviewed articles were published describing CT. Only one correctly described the boundaries. 4 were inaccurate and 6 did not provide an anatomical description of the triangle. Of the remaining 6: 4 were not accessible, 1 was in Russian and 1 was a multimedia article.

Conclusion: The cystohepatic triangle is a common misnomer for the Calot’s Triangle. Recognition of this misconception will aid teaching and training towards performing a safe cholecystectomy.

1105 – WINNER OF BASO – THE ASSOCIATION OF CANCER SURGERY PRIZE: IRRIGATION OF SQUAMOUS CELL CARCINOMA WOUNDS TO PREVENT LOCAL RECURRENT

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Aim: Despite efforts to excise squamous cell carcinomas with a margin of normal tissue, some tumours are incompletely excised or cancer cells are “seeded” into the wound allowing local recurrence. Following surgical oncology procedures many operators irrigate wounds or body cavities with water rather than normal saline. The logic being that water will induce an osmotic shift of fluid into the cells, causing them to lyse.

Methods: SCC cells labelled with a lentivirus GFP/luciferase reporter were grown at clonal densities on standard culture dishes and on top of de-epithelialised dermis (DEDs), to simulate the operative wound environment. Plates were irrigated with standard culture medium, water, normal saline and a 10% betadine solution.

Results: After 2 weeks, plates and DEDs were analysed for evidence of cell growth. Plates treated with water irrigation showed a decreased ability to form colonies, compared to those treated with culture medium or saline, however, substantial growth was still present. Only the 10% betadine solution showed complete absence of cell growth.

Conclusion: These experiments suggest that irrigating oncological wounds with water alone may not be sufficient to prevent seeding of tumour cells, and that irrigation with a betadine solution maybe a safer option.

1141: TARGETING STEM CELLS IN SQUAMOUS CELL CARCINOMA

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Aim: Cancer stem cells may evade current therapies and allow a cancer to re-grow. By targeting the tumour stem cell population, we may control the disease and cause less harm to the patient’s normal tissues. FRMD4A has been shown to be more abundant in human keratinocytes with a stem-like phenotype, and highly over expressed in a panel of human SCCs.

Methods: FRMD4A in human skin was studied using in-situ hybridization and immunofluorescence staining. Laser capture microscopy (LCM) was used to collect samples of the basal and granular layers of human epidermis in order to compare levels of FRMD4A by Q-PCR. In cell cultures derived from human HNSCCs FRMD4A was stably knocked down using lentivirus shRNAs. The effect on function was tested in vitro and in vivo by xenografting.

Results: Results of these studies revealed much higher levels of expression of FRMD4A in the basal layer compared to the granular layer of normal skin. Knockdown of FRMD4A disrupted normal cell–cell adhesion in HNSCCs. Growth and invasion of the SCC lines in vitro and in vivo was reduced in the FRMD4A knockdowns.

Conclusion: FRMD4A is a marker of stem cells in SCCs making it a potential target for future therapies.

BREAST SURGERY

0056: A NOVEL TECHNIQUE IN REPAIRING RECALCITRANT ABDOMINAL HERNIAS POST BREAST SURGERY USING MITEK BONE ANCHORS FOR SYNTHETIC MESH FIXATION

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Introduction: Repair of recurrent abdominal hernias is a surgical challenge often presenting to plastic surgery as a last resort. Such recalcitrant hernias cause enormous morbidity and constitute a financial burden to the NHS. It is important to explore novel and potentially effective repair methods. We report on a technique utilising overlay prolene mesh fixed to bone using Mitek anchors.

Methods: All recurrent iatrogenic abdominal hernias repaired by one surgeon (2003-2010) were reviewed. The indications, operative details and clinical outcomes were documented.

Results: Seven patients (6F, 1M) aged 35–60 years had had a median of 3 hernia repairs prior to referral. The causes of herniation were incisional (5) and post-TRAM flap (2). The operations lasted a mean of 6 hours (r=3–10.5 hrs). There were no major post-operative problems although one patient requested removal of two of his eight Mitek anchors because of localised tenderness. Only one patient developed a recurrent lower abdominal bulge.

Conclusion: Mitek bone anchor fixation of prosthetic mesh reinforcement of abdominal wall hernia repairs is an effective repair technique associated with low morbidity. This method of recalcitrant hernia repair may be a useful addition to the plastic surgeon’s armamentarium.

0098: DO WE NEED TO BIOPSY YOUNG WOMEN WITH CLINICALLY AND RADIOLOGICALLY BENIGN BREAST LUMPS?

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Aims: Of all breast lumps in young women, very few are malignant. Some patients may not require all elements of triple assessment including those with clearly identified benign conditions with no other suspicious features identified clinically and radiologically. Aim of this study was to see if biopsy of clinically and radiologically benign breast lumps of women under 30 years is necessary.

Methods: Retrospective study of women under 30 years presenting with breast symptoms between December 2000 to January 2010.

Results: There were 864 patients. 612 had FNA and 252 CB. 544 met the inclusion criteria. There were 496 (U2), 39 (U3) and 9 (U3+) on ultrasonography. Of the 496 U2, 495 patients pathology was benign (B1/B2). All U3 patient’s pathology was benign. All U3+ patients pathology confirmed cancer. 9 cases of U4/5 all confirmed cancer on pathology. U2 was reported as a C4.

Conclusions: 495 clinically and radiologically benign cases were proven to have benign disease on FNA/CB. If there is a discrepancy between clinical and radiological findings there should be a low threshold for biopsy. Otherwise it may be safe to opt out of needle biopsy as it avoids unnecessary morbidity and use of precious resources.

0106: A RETROSPECTIVE STUDY OF AXILLARY LYMPH NODE CLEARANCE FOR PATIENTS DIAGNOSED WITH EARLY BREAST CANCER AND AXILLARY LYMPH NODE INVOLVEMENT

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Aim: Axillary nodal status is the most important prognostic indicator that influences adjuvant therapy. Sentinel lymph node biopsy (SLNB) is the standard procedure performed to stage the axilla. The current standard is to perform axillary node clearance (ANC) if there is evidence of lymph node (LN) metastases. This study aims to assess the number of positive LN on ANC following a positive SLNB or biopsy on clinical/ultrasound assessment.

Methods: Patients with ANC (January 2008 to December 2009) were identified along with LN yields on SLNB and ANC. Clinical-pathological parameters and treatment details were also collected. ANC was performed for three groups: SLNB + micrometastasis, SLNB + macrometastasis and positive axillary LN on clinical/ultrasound-guided biopsy.

Results: 170 ANC were performed in the two-year period. More than 40% of patients with micrometastasis on SLNB had further positive LN on ANC. Only 8% of patients with micrometastasis were found to have residual axillary disease (p=0.001, Fisher’s exact test). Completion ANC did not provide any additional information to alter adjuvant treatment in patients with micrometastasis.

Conclusion: The limited role of completion ANC in patients with SLNB + micrometastasis is highlighted and therefore is likely to have an impact on management of early breast cancer.

0112: FIVE YEARS AFTER INTRODUCTION, HAVE STANDARDISED REFERRAL FORMS REDUCED THE NUMBER OF INAPPROPRIATE REFERRALS TO BREAST CLINIC?

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Introduction: In August 2005 new referral guidelines and updated referral forms were issued to GP’s in Cardiff with the aim of reducing unnecessary referrals to breast clinic. An audit of 203 referral letters showed that 53% of patients were referred using the new style form. 55% of referrals were deemed inappropriate. After five years we aim to assess the impact of standardised referral forms on inappropriate referrals to breast clinic.

Methods: A prospective audit of GP referrals to the breast clinic in June and July 2010 was performed.

Results: 145 patients were included. 75% of patients were referred using the referral forms but 58% of these were filled incompletely. Concordance between GP and consultant findings was similar for written and form referrals (65% for breast lumps, 54% and 59% for pain and 100% and 57% for discharge respectively). Overall 8% referrals were deemed inappropriate using national guidelines, of which 7 (6%) used the standardised form and 5 (14%) were letters. All patients referred inappropriately had a normal diagnosis, none required a biopsy and all were discharged from clinic.

Conclusion: After five years, the majority of referrals to the breast clinic are made using the standard referral form. The number of inappropriate referrals has fallen to 8%.

0113: MASTALIGIA – ARE WE CARING IN THE COMMUNITY?

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Introduction: Referral guidelines for mastalgia are well published. Breast pain with no other clinical concern should be managed initially in a primary care setting. Our aim was to look into the management of mastalgia in the community and have an understanding on whether guidelines are followed.

Method: A questionnaire was posted to all GP surgeries that referred to our institution.

Results: 41 responses were received (34% response rate). 95% percent of GPs consulted 1-5 women with mastalgia every month. 24% of GPs were aware of referral guidelines for patients presenting with breast pain. 37% of GPs refer a patient with mastalgia to the breast clinic at their first presentation, mostly as ‘urgent’ or ‘soon’ referrals. All respondent GPs would initiate some form of management for mastalgia.

Conclusion: Mastalgia is the commonest breast symptom presenting to general practitioners. Ignorance of national guidelines and fear of missing a breast cancer results in a large number of patients being referred to the breast clinic with significant resource implications. GPs should be encouraged to manage mastalgia in the community. We would advise breast specialists to assume a primary role in promoting knowledge and reassurance amongst GPs by means of leaflets, forums and meetings.

0132: PHYLLOIDES TUMOURS OF THE BREAST: A SINGLE CENTRE EXPERIENCE

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Aims: Phyllodes tumours (PT) are the most common non epithelial neoplasms of the breast and account for 1% of all breast tumours. We aim to report our experience on the management of PT over an eight year period.

Methods: A retrospective review of all patients diagnosed with PT in a single unit between January 2003 and December 2010 was performed.

Results: 31 patients were included. 27 patients had symptomatic and 4 patients screen detected lesions. Diagnostic imaging showed benign features in 13 patients, equivocal features in 9 patients and features in keeping with PT in 9 patients. All lesions were biopsied but a preoperative diagnosis of PT was achieved in only 10 patients. 4 patients underwent mastectomy, 27 patients had a wide local excision. Final histology revealed 23 benign and 8 malignant PT. All patients were followed up for 12 months; we had a 9.6% recurrence rate, mostly in patients with benign phyllodes.

Conclusions: PT of the breast are a diagnostic challenge. There is a lack of consensus on how to best manage these rare tumours and we would recommend a low threshold for excising rapidly growing or large supposedly benign lesions. All patients should be followed up as even benign phyllodes can reoccur.

0176: BREAST CANCER IN SYMPTOMATIC PATIENTS WHO HAVE NORMAL USS AND/OR MAMMOGRAM

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Aim: There is no data published on the incidence of patients who present to the breast clinic (with either a lump or thickening) and have normal findings on USS and/or mammogram, however subsequently have biopsy proven cancers.

The aim of our study was to determine this number in our centre.

Method: We called all of the patient’s notes who were diagnosed with breast cancer between 1st April 2009 and 31st October 2011 in our trust. We retrospectively reviewed all presenting complaints, radiology and histology findings, and multi-disciplinary team meeting decisions.

Results: In total we found 319 patients who were diagnosed with breast cancer during this period. Out of these 17 had normal imaging initially, however had histologically confirmed breast cancer/in-situ cancer on FNAC/core biopsy of the symptomatic area.