

two week target. The commonest reason for referral was lone breast pain (23.7% of referrals), followed by a non-significant or unclear family history of breast cancer (20.4%). 59.3% of referral tickets were signed by general practitioners, while the referrer was illegible or lacking enough contact details in 23.9% of tickets. Findings on breast examination were documented in only 46% of the tickets. 41.6% of the referring doctors specifically requested mammography to be done.

Conclusion: Woman with breast-related concerns often present to general practitioners. These women should be assessed for possible red flags in the history and examination which may be indicative of possible breast malignancy, and if present, they should be referred promptly for specialist review. Unnecessary referrals increase waiting time for patient evaluation at the breast clinic. Referral tickets must include the features suggestive of possible breast malignancy, examination findings, and contact details. This audit indicates that the quality of referrals to breast clinic is suboptimal.

P5.02

Compliance to Breast multidisciplinary team meeting (MDT) decisions

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Background and aim: Multidisciplinary team meetings (MDT) have been the mainstay of breast cancer management in Malta for the last 10 years. Evidence has shown improved results in units where an effective MDT is in place. The aim of this study was to look at deviations from MDT decisions and identify ways of maximizing compliance.

Method: 56 patients discussed at the MDT over a 5 week period were studied. The decision taken at MDT was compared to the management as derived from the patient notes. Any deviation from the management plan was analysed as to type and reason for change.

Results: Full compliance occurred in 77%. Non-compliance in 9 (69%) out of 13 patients was patient-driven. Refusal of investigation occurred in 2/13 patients (15%). Deviation in planned surgical procedure in 8/13 patients, half of these patient driven, 3 had axillary clearance performed instead of sentinel node biopsy due to technical problems and one did not have an immediate reconstruction as planned due to delays in obtaining adequate implant. The remaining 3 patients refused chemotherapy.

Conclusion: Significant deviations to MDT decisions are mainly patient driven. Compliance may be improved by better organization of sentinel lymphnode harvesting and more patient involvement in decision taking through a named Breast Care Nurse.

P5.03

Breast cancer in Malta – a comparative study between the year 2000 and 2010

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Introduction: During the last decade, Malta experienced the introduction of a number of programmes and initiatives aiming to raise risk and cancer awareness on breast cancer. Increase in cancer awareness has led to detection and treatment at earlier stages and better long-term survival. The aim of this retrospective study was to assess whether the rise in breast cancer awareness influenced the presentation pattern of breast cancer in Malta.

Method: The patients' records operated for breast cancer in the year 2000 and 2010 were reviewed after sourcing the list from the Pathology Department at Mater Dei Hospital. For each case demographics, laterality, surgical procedure, histology of tumour, largest histological tumour dimension, differentiation and nodal status were collected.

Results: 456 patients were studied; 171 for the year 2000 and 285 for the year 2010. Median age was 64.5 years (range 23-91 years) in 2000 and 59.5 years (range 29-96 years) in 2010. Lumpectomy or wide local excision were carried out in 41.0% of patients in 2000 and 64.7% in 2010. Mastectomy was done in 49.7% of patients in 2000 and 27.1% in 2010. Invasive ductal carcinoma of the unspecified type was the most common histological tumour in both years (68.8% in 2000, 74.7% in 2010). Peak incidence for the histological tumour dimension shifted from pT2 in 2000 to pT1c in 2010. Mean tumour size of the invasive type decreased from 28.2mm in the year 2000, to 22.9mm in the year 2010. Histological regional lymph node metastases decreased from 52.2% in 2000 to 45.0% in 2010.

Conclusion: Our study shows a trend of earlier age presentation, decrease in tumour size, less axillary node metastases and an increase in breast conservation surgery. Current initiatives and programmes appear to be effective at increasing breast cancer awareness and early detection.

P5.04

Number of wires required for median sternotomy closure

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Introduction: The use of biomechanical techniques can help model the forces that act on median sternotomy closures and determine the mechanisms of median sternotomy dehiscence. This can guide changes in sternal wiring techniques in order to reduce the appreciable morbidity and mortality of median sternotomy dehiscence.

Aim: To model the human thorax and use this model to quantify the forces on the rib cage and sternum. The model could help determine the mechanism behind sternal dehiscence.

Methodology: The model was based on measurements from CT scans of 8 randomly chosen male Maltese thoracic cavities. The CT data was compared to ideal ellipsoids. The magnitude of thoracic forces on coughing was modelled using finite element analysis (FEA) techniques based on an ellipsoid shell.

Results: An FEA model of the thorax was successfully created using CT measurements of the dimensions of the rib cage for eight subjects. The subjects' dimensions had no statistical difference using a single factor ANOVA test. The correlation between chest wall measurements from CT data and ideal ellipsoids was significant ($p < 0.001$) and showed a close fit (correlation coefficient 0.99 for both thoracic minor and major semi-axes. There was a significant correlation ($p < 0.001$) between circumferential rib load and rib level with a progressive increase on rib load on the sternum from the first to seventh rib. A conventional closure of six sternal wires could dehisce due to moments pivoting at the manubrium of the sternum when subjected to prolonged maximal coughing, leading to wire-cutting through bone occurring maximally at the lower end of the sternum.

Conclusion: The human chest wall closely fits an ideal ellipsoid shape. During coughing, the circumferential force at the lower end of the chest is double that of the upper part. The increased stress caused by the lateral pivoting action of the lower ribs in the costal margin, leads to increased bone stress in the lower sternum, explaining the increased risk of dehiscence in the lower part of the sternotomy. Biomechanical stability of the standard six wire sternal closure could be improved by the addition of 1 to 2 extra wires located towards the lower end of the sternum.