

**Conclusion:** MDS have become indispensable tools in investigating the details of protein structure and motion. The techniques presented here may be used effectively in the study of protein function including kinetics and binding of small molecule pharmaceuticals.

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#### P1.09

### Novel beta globin gene cluster rearrangements and deletions in the Maltese islands

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**Introduction:** Hb F Malta 1 and Hb Valletta are common haemoglobin variants found in the Maltese population, in strong linkage disequilibrium with each other. Genotype and phenotype analysis of Hb F Malta 1 newborn was performed to find rearrangements and deletions at the beta globin cluster. A case study of a deletion beta thalassaemia is also discussed.

**Methods:** Two hundred and eighty-two Hb F Malta 1 newborn were enrolled in the study. A reverse phase HPLC was used for globin chain quantification. Multiple ligation probe analysis and qPCR were used detect deletions or duplications at the beta globin cluster. A case study of a female of Asian descent presenting with the phenotype of beta thalassaemia trait is described. Since routine clinical testing failed to find a cause for the microcytic anaemia, the aforementioned techniques were used to look for atypical deletion beta thalassaemia.

**Results:** Novel cases of newborn with broken linkage between Hb Valletta and Hb F Malta 1 were discovered, suggesting a higher rate of recombination events in this region. Gene conversion mutations, deletions and duplications at the gamma globin genes were discovered. In the case study, a large heterozygous deletion involving the beta globin gene and several downstream olfactory genes was found.

**Conclusion:** The case study highlights the importance of alternative techniques for diagnostic testing in a population with increasing genetic heterogeneity. A larger study population has enabled the detection of rare rearrangements at the beta globin cluster and copy number variations can be detected with qPCR.

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#### P1.10

### An audit on warfarin dosing at Mater Dei Hospital's anticoagulation clinic

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**Introduction:** For patients taking warfarin for atrial fibrillation (AF), NICE guidelines state that the time in therapeutic range (TTR) – recognised to be an INR value between 2 and 3 – should be assessed at each outpatient visit or at least annually. Using these guidelines, the quality of anticoagulation is measured using INR values over a period of 6 months. According to NICE guidelines, markers of poor anticoagulation are: (i) TTR < 65% (ii) Two INRs < 1.5 (iii) Two INRs > 5 (iv) One INR > 8.

**Methods:** The INR values of 195 randomly selected patients who receive warfarin for AF and whose warfarin is dosed at ACC clinic of Mater Dei Hospital were included. Patients who were recently started on warfarin and had not received warfarin for a total of 6 consecutive months were excluded. The above mentioned criteria were used to assess the quality of anticoagulation.

**Results:** Average age of participants was 76; 51.8% were female. From the sample population: 68.2% found to be poorly anticoagulated; 67.2% had a TTR < 65%; 3.1% had two INR values > 5; 20.5% had two INR values < 1.5.

**Conclusion:** Two thirds of this sample population do not fulfil the criteria for adequate anticoagulation in AF whilst another third is well controlled. This calls for further improvements in the anticoagulation service at our MDH ACC. Notably, prescribers of warfarin at ACC clinic seem to be wary of giving too high a dose due to the fear of bleeding, without considering that under-anticoagulation is also dangerous.

#### P1.11

### An audit of the cost of rehabilitation multidisciplinary team meetings

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**Introduction:** NICE guidance advises Multi-Disciplinary Team (MDT) working to best manage individuals undergoing complex rehabilitation. The MDT is designed to improve inter-disciplinary collaboration to improve decision-making and communication of an individual's care. This should result in improved care management. MDTs are firmly embedded as the most effective tool in rehabilitation care. The core members of rehabilitation MDTs should include consultants, allied health professionals, nurses, psychologists and specialty registrars. There is little published information on the costs of MDTs. Our aim was to estimate the cost of a Rehabilitation MDT within a community hospital.

**Methods:** Attendance of MDTs over a ten week period was reviewed. The health professionals attending were divided into medical staff (including doctors-in-training and consultants) and 'others' (nursing, psychology, speech and language therapy, dieticians, physiotherapy and occupational therapy) for the purpose of analysis.