

BEAT-IT Project: Screening for Causes of Sudden Cardiac Death in Maltese Adolescents

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AIM

Screening for Sudden Cardiac Death (SCD) in athletes is expanding and is now mandated by a number of sporting organisations. A national screening project for athletes and non-athletes alike has however never been attempted. The aim of this project was to identify high-risk individuals in the general adolescent population.

Methodology

Year 11 students in Malta and Gozo were all offered cardiovascular screening with a questionnaire and electrocardiogram (ECG). Data protection clearance together with the necessary permissions were obtained from all relevant bodies. Approval and endorsement was also obtained from the Ministry of Education. The questionnaire looked into demographics, symptoms, family history of sudden cardiac death and athletic ability. ECGs were carried out on-site in schools. Subject and parental consent was obtained.

Results

A total of 4155 students were eligible for participation in 49 schools, with 2708 [68%] students agreed to undergo evaluation. A total of 102 individuals [4.4%] were referred for secondary evaluation, with 32% of the latter group classified as athletic individuals, highlighting the importance of PPS in athletes. ECG proved to be the strongest reason for referral, with 90.2% of those referred having an abnormal ECG. Of those screened, 25 [25%] need long term follow up, 40 [39%] need a follow up in 1 year, with 34 [33%] reassured and discharged after secondary evaluation.

Discussion

Screening is cheap and non-invasive. Some diseases linked to SCD are not as rare as one would think. At present, 9 subjects currently harbour such diseases, equivalent to 1 in 301 students screened.

Conclusion

To our knowledge, this is the first reported project of widespread national screening of a specific age group. This project has helped assess the feasibility of introducing a nationwide adolescent screening program to detect rare potentially malignant cardiac disease.