POSTER PRESENTATION





Bio-chemical and molecular analysis in cardiomyopathy patients

Rutvik J Raval^{1*}, Tapan A Patel¹, PL Sachapara², Mandava V Rao¹

From International Conference on Human Genetics and 39th Annual Meeting of the Indian Society of Human Genetics (ISHG) Ahmadabad, India. 23-25 January 2013

Introduction

Cardiomyopathy refers to diseases of the heart muscle. Symptoms of cardiomyopathy includes: Shortness of breath, Chest pain, Dizziness, Lightheadedness or fainting, Palpitations. Cardiomyopathies are divided in two types that are Primary (intrinsic) and Secondary (extrinsic) cardiomyopathies. Primary cardiomyopathies are divided in three types i.e. genetic, mixed and acquired.

Present study was planned to evaluate the biochemical alterations in patients with cardiomyopathy or myocardial Infarction using bio-chemical and molecular indices.

Methods

Blood samples were collected from patients (n=12) with cardiomyopathy/myocardial infarction and same age and sex matched healthy controls (n=12). Serum myoglobin and serum creatine kinase-MB (CK-MB) levels were evaluated. Genomic DNA was isolated from peripheral blood and its quality and quantity were checked. PCR amplification of the various exons of genes MYH7 (exon 8 and 9) and *TNNT2* (exon 8) was carried out. PCR products were checked by 2% agarose gel electrophoresis. Further, mutations were screened by Polymerase Chain Reaction-Single Strand Conformation Polymorphism (PCR-SSCP) technique.

Results

In cardiomyopathy patients the ratio of Male: Female was 1:1. Out of twelve patients four patients showed high levels of CK-MB and two patients with high Myo-globin levels and only one patient reported high levels of both myoglobin & CK-MB. None of the patient

* Correspondence: zooldeptgu@satyam.net.in

¹Gujarat Genetic Diagnostic Center (GenDiCe), Department of Zoology, University School of Sciences, Gujarat University, Ahmedabad, Gujarat, India Full list of author information is available at the end of the article showed mutation in exon8 and 9 of MYH7 gene & exon 8 of *TNNT2* gene.

Conclusion

In Gujarat population, cardiomyopathy patients exhibited alterations in biochemical parameters, but did not reveal any mutation in exon 8 and 9 of MYH7 gene & exon 8 of *TNNT2*.

Authors' details

¹Gujarat Genetic Diagnostic Center (GenDiCe), Department of Zoology, University School of Sciences, Gujarat University, Ahmedabad, Gujarat, India. ²Samarpan Hospital, Madhavjyot, Kalubha road, Bhavanagar, Gujarat, India.

Published: 21 January 2014

doi:10.1186/1755-8166-7-S1-P73 Cite this article as: Raval *et al*.: Bio-chemical and molecular analysis in cardiomyopathy patients. *Molecular Cytogenetics* 2014 **7**(Suppl 1):P73.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

) BioMed Central

Submit your manuscript at www.biomedcentral.com/submit



© 2014 Raval et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (http:// creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.