

Due to the sensitivity of this method it could potentially be used for prenatal sex identification using free fetal DNA in maternal plasma or serum in addition to chorionic villous samples. Therefore, considering the sensitivity of the assay, it could be used in parallel with other Y-specific assays to increase the certainty of the results.

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From the Molecular Genetics Laboratory (Pakravan, Ala), Comprehensive Hemophilia Care Center, and Molecular and Cellular Research Centre, Iran University of Medical Sciences, Tehran, Iran. Address correspondence and reprint requests to Dr. Ghassem Rastegar Lari, Molecular Genetics Laboratory, Comprehensive Hemophilia Care Centre, No. 101, Zartosht-Felestin Cross, Tehran 14158-63675, Iran. Tel. +98 (21) 8898742. Fax. +98 (21) 8898743. E-mail: ghrastegarlari@yahoo.fr

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Serum calcium and phosphorus levels in patients with ischemic heart disease

Mohammad Masoomi, MD, Afsaneh Foroud, MD,
Masoomeh Karami, MD.

Ischemic heart disease (IHD) is estimated to be the leading cause of lost life years until at least 2020.¹ There is a long list of well known risk factors for cardiovascular diseases but limited work has been carried out on the relation of serum calcium and phosphorus levels with IHD, and their results are controversial. Calcium is a vital electrolyte, in normal adults plasma level ranges from 2.2-2.6 mmol/l (8.8-10.4 mg/dl). Plasma concentration of phosphorus is normally 2.5-4 mg/dl. In a case control study of men in Finland with 10 years follow up, there were no significant differences in concentrations of serum calcium, and serum

magnesium between cases who died from cardiovascular diseases and controls.²

Jorde et al³ shows that total serum calcium is a predictor of cardiovascular disease in men. We performed this cross-sectional study in order to compare the status of total serum calcium and phosphorus levels in patients with coronary artery disease (CAD) with normal controls. We used a questionnaire for demographic data and we excluded patients with malignancy, renal failure (creatinine >1.5 mg/dl), liver diseases, digestive disorders, hyperthyroidism, and those undergoing treatment with thiazide diuretics. We collected blood samples for measurement of serum total calcium, phosphorus, urea, creatinine, triglyceride, uric acid, cholesterol and fasting blood sugar after overnight fasting, and we determined biochemical parameters with ordinary kits using RA 1000 apparatus.

The patients underwent routine coronary angiography using optimus-M 200 Philips angiography system. The number of the vessels with significant stenosis (>50%) was detected by a cardiologist who was not aware of the investigation. Stenosis less than 50% was known as non-significant lesions and were excluded. We analyzed all data through EPI info 2000 and *p* values <0.05 were considered as statistically significant, after gathering the samples and data recording in the questionnaire. We studied a total of 230 consecutive patients (149 males and 81 females) admitted for coronary angiography in Shafa Hospital. Their age ranged from 23-78 years with a mean age of 52.8 ± 11.2 years, 142 (61.7%) patients had CAD (group I) and 88 (38.3%) subjects had normal coronary angiogram, as control group (group II). Single vessel disease was detected in 58 (40.8%), 2 vessel disease 33 (23.3%), and 3 vessel disease 51 (35.9%) of patients with CAD. Mean age was (55.1 ± 10.2 years in group I, 47.9 ± 11.6 years in group II). The mean age was significantly higher in group I (*p*<0.0001). Patients with CAD had diabetes mellitus, high blood pressure, hyperlipidemia, and smoking habitus more than control group, (all *p*-values <0.05). The mean calcium and phosphorus concentrations in the 2 groups are given in Table 1. The concentration of calcium and phosphorus did not significantly differ between patients with CAD and normal controls. Serum calcium and phosphorus levels had no significant association with the number of vessels diseased. We indicated calcium has an important role in the pathogenesis of atherosclerosis, an association between serum calcium and the metabolic syndrome.⁴ If such an association exists, one would expect serum calcium to be related to CAD. We suggested high serum total calcium concentration to be an independent risk factor for myocardial infarction in middle aged men.⁵ In our study, the mean levels of total serum calcium and phosphorus were not significantly different between the patients with and without

CAD, and serum calcium and phosphorus had no significant association with the angiographic severity of CAD.

Narang et al,⁶ showed that serum phosphorus had an independent positive association with the angiographic severity of CAD. In this study, we could not measure the amount of calcium deposition in atherosclerotic plaques of patients with CAD, but regarding the unique concentrations of the total serum calcium and phosphorus between 2 groups of patients with and without CAD, our data suggests that the total serum calcium and phosphorus had no relation with IHD.

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From the Department of Cardiology and Physiology Research Center, Kerman University of Medical Sciences, Kerman, Iran. Address correspondence and reprint requests to Dr. Mohammad Masoomi, Department of Cardiology, Shafa Hospital, Farabi St, Kerman, Iran. Tel. +98 (341) 3210169. Fax. +98 (341) 2115803. E-mail: masoomi@kmu.ac.ir

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Blood and saliva lactate levels during recovery from supramaximal exercise

Hilmi Karatosun, MD, PhD, Cem Cetin, MD, PhD,
Metin L. Baydar, MD, PhD.

Lactate is now recognized to be an important source of energy for skeletal muscle metabolism, measuring blood lactate concentration (samples)

provides information not only regarding changes in glycolysis, but also on anaerobic work capacity. Blood sampling involves blood loss, emotional stress and discomfort, whereas saliva is easy to collect and non-invasive. Several authors have described the possibility of evaluating the changes produced in the composition of saliva in response to exercise as a non-invasive method of determining lactate threshold.^{1,2} There is some research, which shows parallelism between the saliva and blood lactate response during incremental exercise.² The aim of this study is to investigate whether there is a relation between lactate increase of blood and saliva, during seated recovery after supramaximal exercise.

A group of 10 male athletes, practicing an average of 6 hours of sports activities per week, and with an acceptable level of physical fitness, agreed to participate in the study after the objectives of the investigation and the protocol to be followed was explained to them. The characteristics of the participants were as follows: average age 21.4 ± 1.50 years (range 21-26.5 years), height 179 ± 4.01 cm (range 174-189 cm), weight 81.7 ± 13.30 kg (range 65 - 100 kg), and body mass index 25.4 ± 4.40 kg/m² (19.4-30.3 kg/m²). No athlete has a smoking habit. All participants followed their customary diets and performed their habitual professional and recreational activities. The time of experiment (10:00-12:00 am) was chosen to minimize the influence of circadian variations in salivary flow and composition. The test was performed at a minimum of 3 hours after breakfast and conducted in a well-ventilated room with an ambient temperature of 20-24°C, and relative humidity ranging between 40-55%. The subjects performed a Wingate anaerobic power test (WAPT) on Monark 814 E (Monark Exercise AB, Vansbro, Sweden). They warmed-up for 5 minutes at a pedaling rate of 60-70 RPM against a resistance equal to 20% of that was calculated for the subsequent WAPT. Two unloaded 5-second sprints were performed at the end of the 3rd and 5th minute of the warm-up period. The maximal pedaling rate (RPMmax) attained during the sprints was recorded. Following a 5 minute rest to eliminate any fatigue associated with the warm-up, they performed the WAPT against a resistance of 0.75 kg/kg body mass. They were instructed to pedal as fast as possible from the onset of the test. The resistance was applied when 70% of the previously recorded RPMmax was attained. They were verbally encouraged to maintain as high a pedaling rate as possible throughout the 30 second test duration. Heart rate was monitored throughout the warm-up, the test and the recovery method using a sport-