

Acute Coronary Syndrome in a 56-year-old Female with Sedentary Lifestyle: A Case Report

Mohammed Adel Basyuni

Umm AlQurra University

ABSTRACT

Background: the average amount physical activity of women in Saudi Arabia predisposes them to ischemic heart disease, in an otherwise completely healthy individual.

Aim: To emphasize the significance of lack of physical activity alone on cardiovascular health.

Case report: this case report describes an acute onset of severe coronary syndrome of a middle aged Saudi woman with no other cardiac risk factors. Treadmill test was positive for inferolateral ischemia. CT angiography revealed occluded arteries in five different locations. A PCI was performed after three months to achieve complete vascularization.

Conclusion: normal lifestyle of women in Saudi Arabia should be considered very sedentary and a major risk factor of ischemic heart diseases.

Keywords: Ischemic heart disease; coronary artery disease; sedentary lifestyle; women health, Saudi Arabia; exercise ECG stress testing

INTRODUCTION

Coronary artery diseases (CAD) have been estimated to be the leading cause of death in developing countries in 2010^[1]. CAD happens when the arteries that supply blood to heart muscle become hardened and narrowed^[2].

The most common risk factors include family history, smoking^[3], obesity, hypertension, diabetes, lack of exercise, dyslipidemia, and stress^[4]. Smoking is associated with about 36% of cases^[3]. Lack of exercise has been linked to 7–12% of cases^[5]. Both rheumatoid arthritis and systemic lupus erythematosus are independent risk factors as well^[6,7].

Unhealthy diet and physical inactivity are considered among the leading causes of major non-communicable diseases, including cardiovascular disease, thus contributing to the global burden of disease, death, and disability in the Arab countries^[8].

Aim: Our aim is to emphasize the impact of lack of physical activity on cardiovascular health. In this case a woman, with no risk factor of coronary artery diseases except for lack of physical activity, develops multiple coronary artery occlusions.

CASE REPORT

A 56 year old Saudi woman was admitted to the cardiac care unit for elective PCI (Case from August 2016) as she complained of chest pain from two and a half months.

The patient was completely fine until she developed chest pain two and a half months ago. The chest pain was bilateral, radiating to shoulders, neck, and the jaw. It came on mild exertion, which is climbing one floor by stairs and lasted for 10-15 minutes. The pain was rapidly relieved by sitting. It was associated with burning sensation in epigastric region, numbness in the left arm and hand, and breathlessness only during pain. The severity of pain increased over time. Patient denied dizziness, sweating, palpitation, orthopnea, PND, edema, syncope attacks or nausea.

On systemic review, she had no fever, weight loss, fatigue, or loss of appetite. She does not have cough or runny nose, no headaches, no blurry vision, nor loss or change in any sensation, no weakness, and no change in bowel or urinary habits. She denied any bleeding or clotting symptoms. She has acid reflux sometimes and therefore takes extra pillow during sleep, takes Yansun (a concoction) and yoghurt for relief, but not any medication. She also occasionally gets knee joint pain from two years after her menopause for which she was prescribed calcium tablets, but does not take them regularly.

Risk factor assessment

She does not have hypertension, diabetes, or any other chronic disease, nor is she dyslipidemic. She is not a smoker and has no recreational habits. She was never obese. Her

physical activity is low, as she is a house wife and doesn't exercise. She keeps a maid for her household daily work. She does not follow any diet schemes. She was not on any medications. Her family history is negative for any heart diseases.

Past history

In 2006, she was admitted for renal stone and right kidney hydronephrosis. An e-hystolytica cyst was also discovered and removed surgically. In obstetric history, she is menopausal from 4 years and has not received any hormone therapy. She sometimes takes prescribed calcium for knee pain. During her reproductive years, she gave birth to four boys and one girl, all normal vaginally with no complications. She used contraceptive pills to gap between each child for six to nine months. She has not received or donated blood, and has no known allergies. She was vaccinated during childhood.

Family history

Her mother has diabetes mellitus. Her father suffers from Alzheimer.

Social history

She is a non-smoker, does not drink alcohol, and has used illicit drugs. Her caffeine intake is one cup per day. She is a house wife, married from 30 years, sexually active with husband. She lives in a house of one floor, with good hygiene, and maids. She has no recent travel history, and no pets.

Physical Exam

HR: 83 bpm, RR: 18/min BP: 120/72 temperature: 36.8 C O₂ sat: 97% on room air Weight: 70 kg height: 155cm BMI: 29.

General examination

Patient was conscious, oriented, and did not look ill or distressed. She is normal built. There were no signs or anemia or cyanosis, and no jaundice. She did not have xanthelasma around her eyes, or any discoloration, enlarged lymph nodes, and lower limb or sacral edema.

Local examination

The chest is symmetrical with no findings on inspection. Apex beat was palpated on the left, lateral to mid clavicular line, 5th IC space of normal quality. There was no tracheal shift, and no heaves.

On auscultation, S1 and S2 were heard, no added or abnormal sounds.

DIAGNOSTIC FOCUS AND ASSESSMENT

Resting ECG: normal so treadmill test was ordered.

CBC: no abnormal finding.

Lipid Profile: normal.

Electrolytes: in normal range.

Serology: negative.

PT: 11.6seconds.

INR: 0.95.

Treadmill Test

- 7.0 METs.
- Duration 4: 49 minutes.
- Heart rate increases from 70 to 120 bpm (84%).

Blood pressure increase to 150/80 mmHg to 160/80 mmHg, after 4:49 minutes she developed chest pain and the test was stopped. ECG changes were noted as ST depression 2 mm in the infero-lateral leads. Type: flat. The ECG normalized after 6 minutes.

Medications before PCI: avastatin, jusprin, concor.

Coronary angiography

- Proximal LAD= 80% occluded.
- Middle LAD= 70% occluded.
- Proximal RCA= 90% occluded.
- Middle RCA= 50% occluded.
- PDA= 80% occluded.

PCI :PCI was decided because of two basal coronary artery diseases and a low syntax score of 23.

Three stents were placed in the right coronary artery and resulted in no residual stenosis. Two stents were placed in left anterior descending artery where also there was no residual stenosis. Dye was injected to recheck for no stenosis, no dissection, and no reflow.

Medications after PCI

- Plavix 75 mg TID.
- Juspurin 81 mg BID.
- Concor 2.5 mg OD.
- Amlor 5 mg OD.
- Lipitor 40mg OD.
- Vastareal 35 mg BID.

This study was approved by the Ethics Board of Umm AlQurra University.

DISCUSSION

Physical inactivity is the fourth leading risk factor for global mortality, accounting for 6% of deaths globally and ranking before obesity and overweight^[9]. It is recommended for adults to engage in 30 minutes of moderate intensity physical activity on at least 5 days a week to prevent and manage over 20 chronic conditions, including coronary heart disease, stroke, obesity, type 2 diabetes, cancer, and mental health problems^[10].

As we see in this patient, she has no risk factors such as smoking, high cholesterol, gender, family history, or metabolic syndromes, but yet developed multiple coronary vessel occlusions most likely due to her physical inactivity.

A very high proportion (84% for males and 91.2% for females) of Saudi adolescents spent a lot more than 2 hours on screen time every day and almost half of the males and three-quarters of the females did not meet daily physical activity that is recommended by guidelines^[8]. Females were significantly ($p < 0.05$) more sedentary, especially with vigorous physical activity. Additionally, the females' intake of potato chips, fries, cakes, donuts, and chocolate was significantly ($p < 0.05$) higher than the males'^[11].

The Gulf Cooperation Council Countries have witnessed dramatic lifestyle changes due to rapid urbanization, dominance of the automobile, introduction of labor-saving, availability of high-fat and dense-caloric foods, increased reliance on technology, as well as decreased occupational-work demands^[12].

CONCLUSION

Sedentary lifestyle alone, without any other risk factors, can have a major impact on cardiovascular health. Physical activity must be encouraged by government and non-government programs by educating people in Saudi Arabia about its necessity, and they must be given available spaces to walk, run, and work out at lesser or no cost. Women must be provided with comfortable spaces to exercise while respecting the country's culture.

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