

Can Fasting in Ramaḍān Help in Some Peripheral Vascular Diseases

S.M. Bakir, M.B.Ch.B., M.Sc., Ph.D.
Riyadh, Saudi Arabia

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Abstract

A beneficial role of Ramaḍān fasting in some types of peripheral vascular diseases is postulated based on: 1) avoidance of smoking, and 2) reduced sympathetic activity during the fast. Both smoking and sympathetic activity are known to predispose patients to peripheral vascular disease.

Key words: Ramaḍān, fasting, peripheral vascular disease, smoking, sympathetic activity.

There are several peripheral vascular diseases that seem to be related to sympathetic overactivity in the peripheral arterioles. Raynaud's disease is an idiopathic bilateral paroxysmal contraction of the arteries and arterioles of the digits causing severe pain. The attacks are precipitated by exposure to cold, or emotional stress. If the disease continues for several years small superficial areas of gangrene may occasionally develop. A number of measures are suggested for its treatment, such as limitation of cold exposure, avoidance of smoking, vasodilators (for example, calcium channel blocking agents), regional sympathectomy, and avoidance of emotional upsets.^{1,2}

Buerger's disease (thromboangiitis obliterans) is another vascular disease affecting chiefly the peripheral arteries and veins of the extremities beginning in the medium and small-sized arteries and less commonly, the veins. Smoking is known to aggravate the disease (nicotine effect on the arterioles) and

avoidance of smoking is strongly recommended. In some cases sympathectomy is preferred to relieve the vasoconstrictor sympathetic tone, and rarely amputation may become necessary, specially in those who continue to smoke.^{1,2}

Fasting in the month of Ramaḍān is one of the five pillars of Islam. It entails the abstinence from food, drink, smoking and sex from dawn to sunset, on an average of 15 hours a day for 29-30 days each year. Islamic fasting may play a beneficial role in these and related small vessel diseases. The beneficial effect of fasting in such vascular diseases is postulated, based on:

1. The prohibition of smoking during the fasting hours. In Saudi Arabia smoking is prohibited even for non-fasters. The exclusion of this predisposing factor would tend to benefit those with peripheral vascular disease.
2. Fasting in Ramaḍān does not seem to be a form of stress.^{3,4} On the contrary, fasting is known to bring tranquility. This could be due to more time spent in religious activity such as prayer and reading the Qur'ān.⁵

“Allāh” (God) says:

“Those who believe, and whose hearts find satisfaction in the remembrance of Allāh; For without doubt, in the remembrance of Allāh do hearts find satisfaction and tranquility.”⁶

*From the Department of Physiology
College of Medicine, King Saud University
Riyadh, Saudi Arabia.*

*Reprint Requests: S.M. Bakir, M.B.Ch.B.
Department of Physiology
College of Medicine, King Saud University
P.O. Box 2925, Riyadh, Saudi Arabia.*

It has been shown that fasting in Ramaḍān reduces sympathetic activity probably by creating tranquility.⁵ In this study, resting heart rates were markedly lowered during the month of Ramaḍān, especially in males. There was also a statistically significant decrease in VO₂ in all subjects, and a reduction of energy expenditure ranging from 7-23%.⁵ Also, animal studies⁷⁻¹¹ demonstrated reduction of sympathetic activity during periods of food deprivation.

Reduced sympathetic activity during fasting will presumably exclude the second predisposing factor and this may ameliorate peripheral vascular disease.

While there have been some studies of the biochemical and hormonal changes during Ramaḍān fast,¹²⁻¹⁵ there is a need to investigate this hypothesis regarding the beneficial role of fasting in peripheral vascular diseases.

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