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The Basic Knowledge of nutraceutical role of heart disease

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ABSTRACT :

According to research, nutraceuticals like carnosine, lycopene, quercetin, polyphenols (including cocoa flavanols), and omega-3 fatty acids can improve cardiovascular health by lowering blood pressure, enhancing endothelial function, lowering cholesterol, and preventing adverse cardiac remodeling.(1)

Important Points

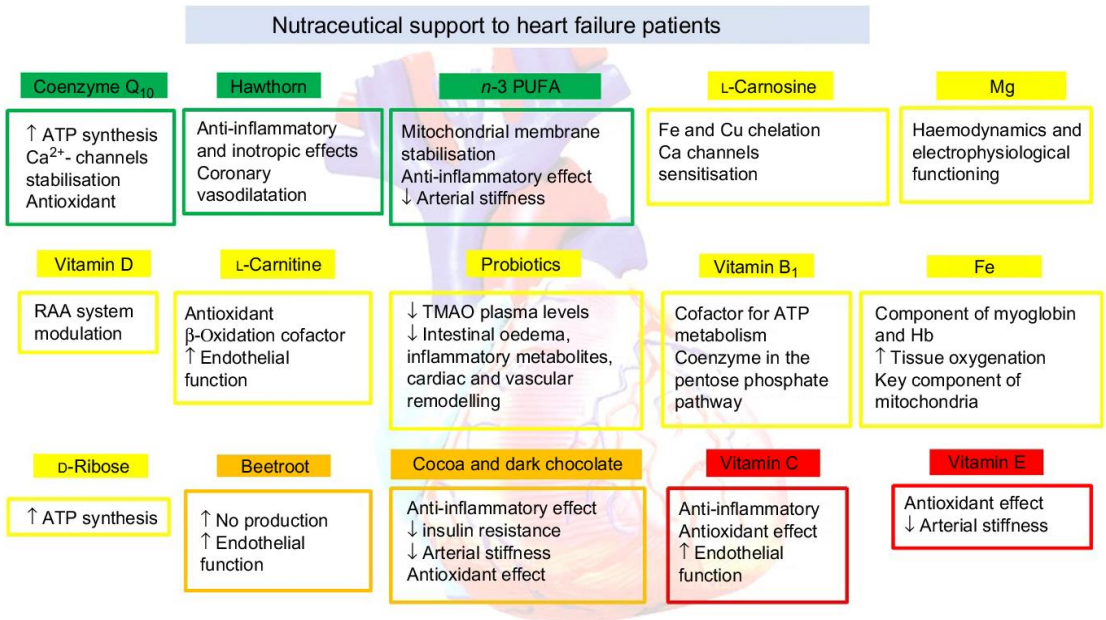
• cardiovascular diseases,
• atherosclerosis,
• hypertension,
• heart failure,
•arrhythmias,
• nutraceuticals lower risk factors enhance results.
• antioxidant .(2)

Introduction

The heart attack are Globally, cardiovascular illnesses continues to be the major causes of death. Nutraceuticals, which are substances obtained from the food sources and have been shown to have health advantages, are becoming more widely acknowledged as supplemental approaches to cardiovascular treatment and prevention. These substances are added to meals to improve heart health.(3)

Mechanism of action of drugs

- **Antioxidant drugs** :- Neutralized harmful free radicals, protecting endothelial cells and vascular function (example; cocoa flavanols, carnosine). (4)
- **Anti-inflammatorydrugs** :- Suppress inflammatory cytokines and reduce vascular inflammation (example ; omega-3 fatty acids, polyphenols).
- **Lipid-modulation**: Lower LDL, total cholesterol, and triglycerides; raise HDL (e.g., spirulina, lycopene).(5)
- **Blood pressure reduce**: Improve endothelial function and regulate blood pressure (e.g., quercetin, cocoa products).
- **Anti-fibrotic**: Inhibit cardiac tissue remodeling and fibrosis (e.g., carnosine, cafestol).(6)



Application:-

- Lower total and LDL cholesterol (plant sterols, stanols).
- Reduce triglycerides and improve lipid profile (omega-3 fatty acids).
- Lower blood pressure (polyphenols, peptides).
- Improve endothelial function (flavonoids, isoflavones).
- Reduce oxidative stress (antioxidants, carnosine).
- Modulate inflammation (polyphenols, omega-3s, cafestol).
- Reduce risk or severity of atherosclerosis (polyphenols, vitamins).
- Lessen risk of arrhythmias (omega-3 fatty acids).
- Support cardiac remodeling and prevent fibrosis (carnosine, plant extracts).
- Provide adjunct therapy to traditional treatments, helping manage drug-induced cardiotoxicity (e.g., cafestol with chemotherapy)(6)

Example of drugs

Cocoa flavanols :-help reduce blood pressure, improve blood vessel function, and make arteries more flexible in different groups of people.(7)
Quercetin:-, found in onion skin extract, helps lower blood pressure and supports heart health.
Omega-3 fatty acids :-help reduce blood fats (triglycerides) and lower the risk of irregular heartbeats.(8)
Carnosine :-helps prevent heart damage and protects against cell stress in people with metabolic diseases.(9)
Spirulina:- helps lower cholesterol and blood fats in people with high lipid level.(10)

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