# Evaluation of Spirulina Antioxidative Potential in Hyperlipidaemia

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**The objective of this research was to analyse the effects of spirulina supplementation against hyperlipidaemia induced oxidative stress through the evaluation of antioxidant biomarkers.**

an arterial vessel in the presence of hyperlipidemia

*Spirulina plantensis*

liver

Oxidative stress

MDA · SOD · CAT · XOD · GST · GPx · TAC

**Male Wistar rats were randomly divided into five groups based on the applied diet**

I normal diet

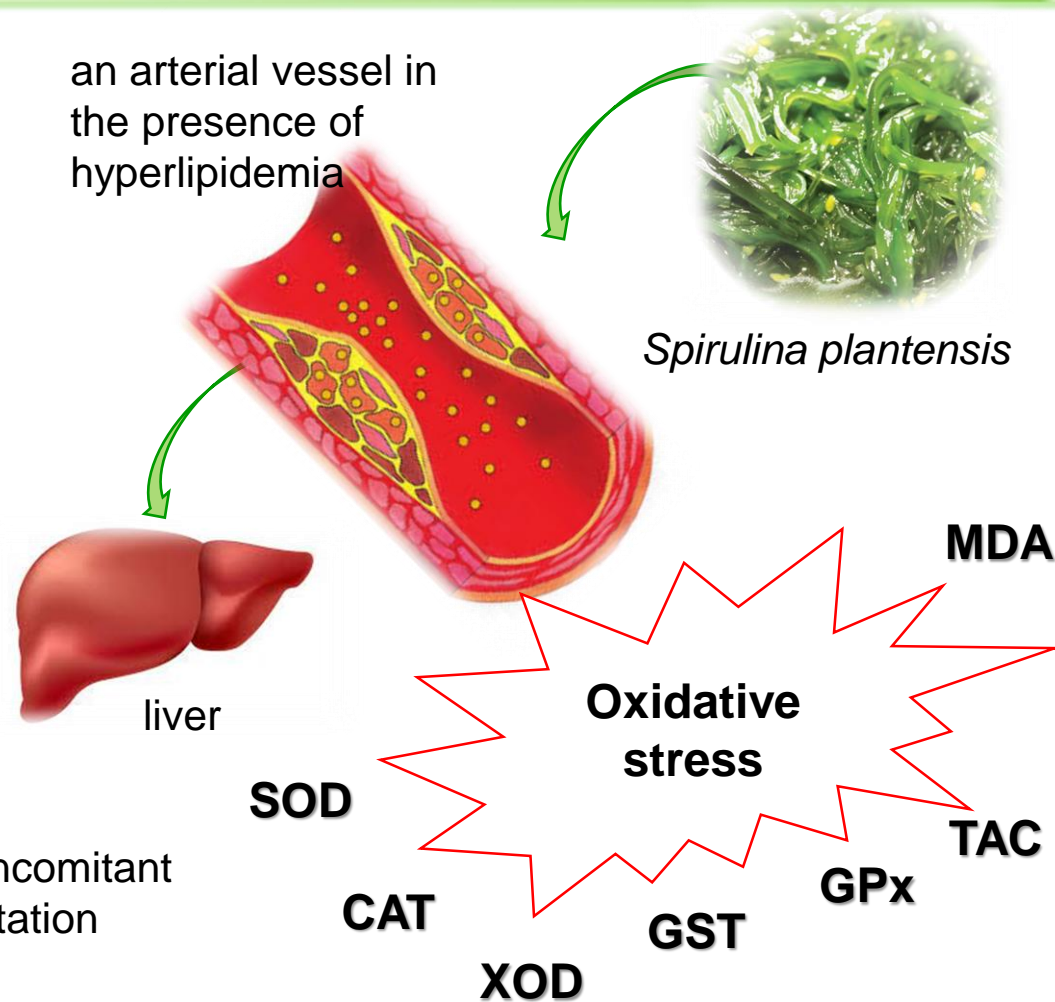II normal diet with *Spirulina plantensis*

III lipogenic diet

IV lipogenic diet with concomitant spirulina supplementation

V lipogenic diet 7 weeks followed by lipogenic diet with concomitant spirulina supplementation

## RESULTS

The activity of analysed oxidative stress biomarkers was noticed in all studied groups. Atherogenic diet induced lipid peroxidation and decreased GST, GPx as well as TAC levels due to the increased oxidative stress. The significant changes in SOD, CAT and TAC values were observed between group III (lipogenic diet) and V, when this microalga was added to the diet after hyperlipidaemia occurred.

The activity of superoxide dismutase (SOD), catalase (CAT), xanthine oxidase (XOD), glutathione S-transferase (GST), glutathione peroxidase (GPx), total antioxidant activity (TAC) and lipid peroxidation was measured in hemolysate.

**Spirulina stabilized the amounts of reactive oxygen species in hyperlipidaemic rats through the amelioration of antioxidative biomarkers.**