

GAMBARAN DROPLET LIPID HEPAR PADA HISTOPATOLOGI TIKUS (*Rattus norvegicus*) MODEL OBESITAS PASCA RENANG BERBAGAI INTENSITAS

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ABSTRAK

Latar belakang: Kondisi obesitas menyebabkan penumpukan trigliserida di dalam sel adiposit sehingga memicu terbentuknya droplet lipid baik dari segi jumlah maupun ukurannya. Latihan aerobik seperti renang dapat menurunkan berat badan sehingga mengurangi akumulasi droplet lipid.

Tujuan: Mengetahui gambaran droplet lipid hepar pada histopatologi tikus (*Rattus norvegicus*) model obesitas pasca renang berbagai intensitas.

Desain penelitian: Penelitian *true experimental* dengan desain *post-test only control group*. Jumlah sampel 20 ekor tikus jantan galur wistar terbagi menjadi lima kelompok yaitu kelompok kontrol (KI), kelompok obesitas tanpa perlakuan (KII), kelompok obesitas dengan perlakuan renang intensitas ringan (KA), kelompok obesitas dengan perlakuan renang intensitas sedang (KB), dan kelompok obesitas dengan perlakuan renang intensitas berat (KC). Pembedahan organ hepar dilakukan pada hari ke-3 pasca perlakuan renang dan penghitungan jumlah droplet lipid hepar dilakukan secara kuantitatif menggunakan skoring.

Hasil: Terdapat penurunan indeks obesitas pada kelompok perlakuan ringan, sedang, dan berat setelah perlakuan renang selama 14 hari. Tidak ditemukan gambaran droplet lipid hepar pada histopatologi tikus (*Rattus norvegicus*) model obesitas pasca renang berbagai intensitas.

Kesimpulan: Tidak ditemukan adanya gambaran droplet lipid pada hepar tikus (*Rattus norvegicus*) model obesitas pasca renang berbagai intensitas.

Kata kunci: droplet lipid, obesitas, renang intensitas (ringan, sedang, dan berat)

**THE FEATURES OF LIPID DROPLET IN THE LIVER HISTOPATOLOGY
OF RATS (*Rattus norvegicus*) OBESITY MODELS
POST SWIMMING AT VARIOUS INTENSITIES**

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ABSTRACT

Background: Obesity conditions cause a buildup of triglycerides in adipocyte cells, triggering the formation of lipid droplets both in terms of number and size. Aerobic exercise such as swimming can reduce body weight thereby reducing the accumulation of lipid droplets.

Objective: To overview hepatic lipid droplets in histopathology of obesity model rats (*Rattus norvegicus*) after swimming at various intensities.

Research Design: This study used a true experimental method with a post-test only control group design. The sample size was 20 male Wistar rats divided into five groups, namely control group (KI), obese group without any intervention (KII), obese group treated with low intensity swimming (KA), obese group treated with moderate intensity swimming (KB), and obese group with high intensity swimming (KC) treatment. Liver surgery was carried out on the 3rd day after swimming intervention and the number of liver lipid droplets was counted quantitatively using scoring.

Result: There was a decrease in the obesity index in the light, medium and heavy treatment groups after swimming treatment for 14 days. There were no visible images of hepatic lipid droplets in the histopathology of post-swimming obesity model rats (*Rattus norvegicus*) of various intensities.

Conclusion: No lipid droplets were found in the livers of rats (*Rattus norvegicus*) obesity models post swimming at various intensities.

Keyword: lipid droplets, obesity, swimming intensities (low, moderate, high)