

PENGARUH EKSTRAK PEGAGAN (*CENTELLA ASIATICA*) TERHADAP KADAR SGOT DAN SGPT TIKUS PUTIH (*RATTUS NORVEGICUS*) YANG DIBERI PAPARAN ELEKTROMAGNETIK TELEPON SELULER

ABSTRAK

Latar Belakang : Penggunaan telepon seluler jaringan 4G 2100 MHz menimbulkan dampak terhadap kesehatan berupa kerusakan hati akibat stres oksidatif, yang ditandai dengan peningkatan kadar SGOT dan SGPT. Berbagai penelitian menunjukkan bahwa paparan gelombang elektromagnetik dapat memicu cedera hepatosit, sementara tanaman tradisional seperti *Centella asiatica* diketahui memiliki kandungan antioksidan yang berpotensi memberikan efek hepatoprotektif. **Tujuan :** Mengetahui pengaruh pemberian ekstrak pegagan (*Centella asiatica*) terhadap kadar SGOT dan SGPT tikus putih (*Rattus norvegicus*) yang diberi paparan gelombang elektromagnetik telepon seluler. **Metode :** Penelitian eksperimental ini menggunakan desain *Posttest Only Controlled Group*. Penelitian dilakukan pada 30 tikus putih (*Rattus norvegicus*) yang terbagi menjadi lima kelompok, yaitu kelompok tanpa paparan elektromagnetik dan tanpa pemberian ekstrak, paparan elektromagnetik tanpa ekstrak, serta kelompok yang diberi ekstrak pegagan (*Centella asiatica*) dosis 125, 250, dan 500 mg/kgBB selama 45 hari. Paparan elektromagnetik diberikan selama 2 jam per hari. Data hasil kadar SGOT dianalisis dengan uji *One-way ANOVA* dan kadar SGPT dianalisis dengan uji *Kruskal-Wallis*. **Hasil :** Hasil penelitian setelah pemberian ekstrak pegagan (*Centella asiatica*) menunjukkan rerata kadar SGOT terendah pada kelompok dengan pemberian dosis 250 mg/kgBB sebesar 149.67 IU/L dan rerata kadar SGPT terendah pada kelompok dengan pemberian dosis 250 mg/kgBB sebesar 70.83 IU/L. Hasil penelitian menunjukkan tidak terdapat perbedaan signifikan kadar SGOT ($p=0.274$) dan SGPT ($p=0.110$). **Kesimpulan :** Ekstrak *Centella asiatica* tidak memberikan pengaruh signifikan terhadap kadar SGOT dan SGPT tikus putih yang terpapar gelombang elektromagnetik telepon seluler.

Kata kunci : *Centella asiatica*, elektromagnetik, telepon seluler, SGOT, SGPT

**THE EFFECT OF CENTELLA ASIATICA EXTRACT ON SGOT AND SGPT
LEVELS IN RATTUS NORVEGICUS EXPOSED TO MOBILE-PHONE
ELECTROMAGNETIC WAVES**

ABSTRACT

Background : The increasing use of mobile phones 4G 2100 MHz network presents health effects, including liver damage caused by oxidative stress, which is indicated by elevated SGOT and SGPT levels. Several studies indicate that electromagnetic wave exposure can trigger hepatocellular injury, while traditional medicinal plants such as *Centella asiatica* contain antioxidant compounds that may provide hepatoprotective effects. **Objective :** This study aimed to determine the effect of *Centella asiatica* extract on SGOT and SGPT levels in *Rattus norvegicus* exposed to mobile-phone electromagnetic waves. **Method :** This experimental study used a Posttest Only Controlled Group design. The study was conducted on 30 *Rattus norvegicus* divided into five groups: a group without electromagnetic exposure and without extract administration, a group exposed to electromagnetic exposure without extract, and three treatment groups receiving *Centella asiatica* extract at doses of 125, 250, and 500 mg/kgBW for 45 days. Electromagnetic exposure was administered for 2 hours per day. SGOT data were analyzed using One-way ANOVA and SGPT levels were analyzed using Kruskal-Wallis. **Results :** The results show that administration of *Centella asiatica* extract produces the lowest mean SGOT levels in the group receiving a 250 mg/kgBW dose with values of 149.67 IU/L and the lowest mean SGPT levels in the group receiving a 250 mg/kgBW dose with values of 70.83 IU/L. The findings also show that there is no significant difference in SGOT ($p = 0.274$) and SGPT ($p = 0.110$) levels. **Conclusion :** The study concludes that *Centella asiatica* extract does not significantly affect SGOT and SGPT levels in *Rattus norvegicus* exposed to mobile-phone electromagnetic waves.

Keywords : *Centella asiatica*, electromagnetic, mobile phones, SGOT, SGPT