

**PENINGKATAN JUMLAH MAKROFAG
PADA KERADANGAN PERIAPIKAL YANG DIINDUKSI OLEH
LIPOPOLISAKARIDA (LPS)**

***(THE INCREASING NUMBER OF MACROPHAGE
IN PERIAPICAL INFLAMMATION INDUCED BY
LIPOPOLYSACCHARIDE (LPS))***

ABSTRACT

Backgrounds. The pulp chamber is mostly infected by anaerob gram negative bacteria and one of them is *Porphyromonas gingivalis*. The cell wall of this bacteria containing Lipopolysaccharide (LPS). LPS can penetrate to the periradicular tissue, act as endotoxin in host and cause periradicular inflammation that leading to bone destruction. This inflammation is mediated by immune system so we can found the inflammatory cell infiltrated in the lesion. One of the inflammatory cell that has an important role in periapical inflammation is macrophage. Macrophage is directly activated by the bacteria and the number is increasing during the inflammation process. **Purpose.** To know how much is the increasing number of macrophage in periapical tissue induced by LPS. **Method.** We use laboratory experimental with the post test only control group design. A total of 21 sample was divided into 3 groups. Group A: control group, group B: the teeth were induced by lipopolysaccharide, group C: the teeth only induced by aquades. The animals were sacrificed 3 weeks after the experiment and prepared for histological examination of periradicular tissue response. **Results.** According to the result, the macrophage increases significantly in group B when lipopolysaccharide was applied in the pulp chamber. The increasing number of macrophage is a complex process because of the contribution of TLR4, IL-6 and GM-CSF. **Conclusion.** There was an increasing number of macrophage in periapical inflammation that induced by lipopolysaccharide.

Keywords : macrophage, lipopolysaccharide, periapical, inflammation