

## INTISARI

Penyakit jaringan periodontal terdiri atas berbagai jenis penyakit yang terjadi pada jaringan pendukung gigi. Penatalaksanaan penyakit jaringan periodontal menitikberatkan pada pengembalian jaringan seperti struktur semula, sehingga dikembangkan terapi regeneratif menggunakan *Platelet-Rich Fibrin* (PRF). *Platelet-rich fibrin* memiliki banyak kandungan *growth factor* yang berperan dalam regenerasi jaringan, salah satunya adalah *Epidermal Growth Factor* (EGF). *Narrative review* ini bertujuan untuk mengetahui peran EGF pada PRF terhadap penyembuhan jaringan periodontal.

Pencarian literatur pada *narrative review* ini menggunakan *database PubMed, Cochrane, Google Scholar, Science Direct, WILEY periodontology 2000, dan WILEY Journal of Clinical Periodontology*. Pencarian dilakukan dengan kata kunci yang relevan menggunakan formula *Boolean Operators* (AND, OR, and NOT). Literatur diseleksi sesuai kriteria inklusi dan eksklusi. Jumlah total literatur yang didapatkan sebanyak 66 sedangkan yang digunakan dalam *narrative review* sebanyak 17 literatur.

Hasil dan kesimpulan *review* menunjukkan bahwa EGF berperan dalam penyembuhan jaringan periodontal di antaranya dalam meningkatkan proliferasi dan diferensiasi sel epidermis serta epitel, menginduksi proliferasi fibroblas pada gingiva, serta menginduksi proliferasi, migrasi, dan *tube formation* endotel, pada ligamen periodontal EGF berperan dalam angiogenesis, sekresi VEGF, menginduksi proliferasi fibroblas, dan mencegah ankilosis. *Epidermal growth factor* memerlukan kombinasi baik *growth factor* lain maupun substansi lain dalam penyembuhan jaringan periodontal. Pelepasan EGF pada beberapa jenis PRF memiliki urutan dari yang paling tinggi A-PRF+ diikuti A-PRF, I-PRF, dan PRF.

**Kata Kunci:** *Platelet-Rich Fibrin, Epidermal Growth Factor, Penyakit periodontal, Penyembuhan jaringan periodontal.*

## ***ABSTRACT***

Periodontal tissue disease consists of various diseases that occur in the supporting tissues of the teeth. Management of periodontal tissue disease focuses on restoring tissue to its original structure so that regenerative therapy using Platelet-Rich Fibrin (PRF) has been developed. Platelet-rich fibrin contains many growth factors that play a role in tissue regeneration, one of which is the Epidermal Growth Factor (EGF). This narrative review aims to determine the role of EGF in PRF on periodontal tissue healing.

The literature search in this narrative review used was PubMed, Cochrane, Google Scholar, Science Direct, WILEY periodontology 2000, and WILEY Journal of Clinical Periodontology databases. The search was carried out with relevant keywords using the Boolean Operators (AND, OR, and NOT) formula. The literature was selected according to the inclusion and exclusion criteria. The final number of articles obtained is 66 while those used in the narrative review are 17 articles.

The results and conclusion of the review show that EGF plays a role in the healing of periodontal tissues including increasing the proliferation and differentiation of epidermal and epithelial cells, inducing fibroblast proliferation in the gingiva, and inducing proliferation, migration, and endothelial tube formation, in the periodontal ligament EGF plays a role in angiogenesis, VEGF secretion, induces fibroblast proliferation and prevents ankylosis. Epidermal growth factor requires a combination of either other growth factors or other substances to heal the periodontal tissues. The release of EGF in several types of PRF has the highest order of A-PRF+ then A-PRF, I-PRF, and PRF.

**Keyword:** *Platelet- Rich Fibrin, Epidermal Growth Factor, periodontal disease, periodontal tissue healing.*