

# **WOUND HEALING: LIPOXIN A4 AS AN INHIBITOR OF INFLAMMATORY EFFECTS AND ACTIVATOR OF REPAIR FACTORS**

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**Introduction:** Tissue repair is complex and involves different mechanisms related to both regeneration and wound healing. These two processes complement each other so that perfect tissue repair occurs. Repair is directly proportional to the degree of injury and inflammation. In this sense, the inflammatory mediators released by the wound stimulate both the body's reaction to the injured tissue and repair. In this sense, lipoxin A<sub>4</sub>, as an inflammatory mediator, may also play a regulatory role during tissue regeneration and healing repair. Understanding these mechanisms means moving forward in identifying new approaches to wound healing with application in the area of plastic surgery. **Objective:** To identify the role of lipoxin A<sub>4</sub> in wound healing. **Methodology:** Literature review by searching the MEDLINE database, via PubMed, using the terms: "lipoxin A<sub>4</sub>" [and] "healing". The search filters used were: free full texts, in the last 5 years. 09 results were found and 03 were included for this study. Articles matching the proposed theme according to the filters and search terms were eligible for the study. Six articles were excluded because they did not meet the eligible criteria. Data extraction, analysis

of results and writing of this review were carried out. **Results:** Lipoxin A<sub>4</sub> is a lipid mediator derived from arachidonic acid composed of four doubly conjugated bonds, it can induce different responses by binding to neutrophils and macrophages, acting both in inflammation and in tissue repair. By binding to neutrophils, it is able to reduce inflammation by inhibiting chemotaxis and the generation of reactive oxygen species, in addition to decreasing the concentration of myeloperoxidase and metalloproteinases 8. By binding to macrophages, it increases the synthesis of interleukin 4 and consequently the migration and proliferation of fibroblasts, which activates healing. **Conclusion:** Through this review study it was possible to identify that lipoxin A<sub>4</sub> has an important inhibitory role of inflammatory effects and activator of tissue reparative factors. The challenge is to make this agent less unstable and more usable, so that in the near future it can be used in medical practice, possibly in the future being an innovative and viable option for the treatment of lesions that are difficult to heal. **Keywords:** Healing; Plastic surgery; Lipoxin A<sub>4</sub>.

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