GENETIC POLYMORPHISMS AND OUTCOMES IN CUTANEOUS WOUND HEALING – NARRATIVE REVIEW

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Introduction: Wounds are discontinuities in one or more layers of the skin, originating from trauma, surgeries, burns, or as a result of chronic diseases such as *Diabetes mellitus*[1–3]. Once tissue damage occurs, healing proceeds through sequential phases, each mediated by specific cell types that may be directly or indirectly influenced by genetic factors[4]. This study is justified by the need to investigate possible polymorphisms associated with wound healing. Accordingly, the research question was formulated: *"Which genetic polymorphisms may be associated with outcomes in tissue repair in cases of cutaneous wounds?".* **Methods:** This narrative review followed the recommendations of the SANR Scale[5]. Article searches were conducted in the PubMed database using the command "(Genetic polymorphisms) AND (Wound Healing)," and the first 30 titles related to the proposed topic were included in the analysis. The "GWAS Catalog" platform was also used to search for mapped genes related to the topic, using the search term "Skin Wound". **Results and Discussion:** Among the analyzed studies, the main genetic polymorphisms associated with dermal wound healing include the SLC1A3-AS1 gene (involved in angiogenesis in periodontal wounds)[6]; FLI1 (regulation of type I collagen synthesis in wounds)[7]; TLN2 and ZNF521 (composition of the wound microbiome)[8]; XRCC2, PCNA, AXIN2, and WNT16 (DNA repair pathways and Wnt signaling)[9]. **Conclusion:** The identification of genetic polymorphisms associated with wound healing reveals the molecular complexity involved in this process. These genetic markers may contribute to advances in personalized therapeutic approaches, promoting more efficient and targeted healing, especially in cases of chronic or hard-to-heal wounds.

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