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# Proceedings



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#### Histological evaluation of Wound Healing effects of alcoholic and oily extract of *curcuma longa* – cattle's eye vitreous in male Rat skin.

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Wound healing is a dynamic, interactive process involving soluble mediators, blood cells, extracellular matrix, and parenchymal cells. Wound healing has three phases — inflammation, tissue formation, and tissue remodeling — that overlap in time. Evaluation of pharmacological effects of herb plants and natural compounds in lab animals forms one of the important parts of ethnopharmacological studies in the world. Recent studies prove positive effects of exogenic hyaluronan (exist in animal tissue like vitreous humor) on acute, chronic and burns wound healing. vitreous body is containing many compounds among hyaluronic acid, collagen, ascorbic acid and mineral substances that each one can accelerates wound healing process. Numerous of articles show the important role of curcumin (in *curcuma longa* rhizomes) on wound healing and anti-inflammatory effects. In these research, influences of alcoholic and oily extracts of curcumin – hyaluronan on skin wound's healing, have been studied.

**Material and Method:** 15 male rat selected and all the animals were anesthetized with an intramuscular injection of 10% Ketamine and 2% Xilazine Hydrochloride. Immediately, hair was shaved from back of rats and 4 hole's was made in each side of rat's body with 4 mm puncher. Left side holes treated daily with: a) ethanol 50%, b) ghee, c) Ethanoic Extract of curcumin-vitreous, d) oily extract of curcumin-vitreous, and right side holes selected as control (normal saline). Sample from the wound was prepared on day's 1, 3, 5, 8 and 18. Sections were stained with hematoxylin-eosin and picrosirius Red Staining for Collagen. Both semi-quantitative (wound reepithelization; presence of inflammatory cells, fibroblasts, new vessels, and collagen) and quantitative methods (polymorphonuclear leucocytes, percentage of re-epithelization, area of the granulation tissue) were used to evaluate the histological changes during wound healing.

Results supported that oily extract was more effective than the alcoholic extract in wound healing process in this study. Presumably, Result from experimental samples, related to compounds which exist in treatments, for example: vitamin A in ghee, curcumin in *curcuma longa*. Histological analysis revealed that increased neo-blood vessels were formed in wounded tissues treated by HA. In addition, treatments of wounds with HA resulted in more granulation production, collagen deposition, and fibroblast proliferation.

**Key words:** wound healing, curcumin, vitreous body, ghee, Rat.