

XI. SUMMARY

Healing refers to the body's replacement of destroyed tissue by living tissue.

The ingrowth of granulation tissue into a haematoma has three phases :

- 1) Traumatic inflammatory phase.
- 2) Demolition phase.
- 3) Ingrowth of granulation tissue phase.

The initial inflammatory response is essential for the subsequent proliferation of fibroblasts . The presence of platelets results in the release of a factor which stimulate fibroblast proliferation. Even more important in this respect is the macrophage.

Granulation tissue is formed by the proliferation and migration of the surrounding connective tissue elements . Two stages in the formation of granulation tissue are recognized ; firstly a stage of vascularization and subsequently a stage

of devascularization.

Organization is the replacement of necrotic tissue , inflammatory exudates , thrombus or blood clot by granulation tissue . It occurs under four conditions :

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| (1) In wound healing. | (2) In inflammation. |
| (3) In thrombosis . | (4) In infarction. |

In wound healing by first intention the tissues are approximated by surgical sutures and healing occurs without significant bacterial contamination and with a minimal loss of tissues.

Fibrin - rich haematoma is formed in which acute inflammatory reaction takes place . Migration of epithelial cells from the adjacent epidermis into the wound happens . These migrating cells do not divide . Mitotic activity occurs in the basal cells a short distance from the edge of the wound.

The acute inflammatory reaction in the area of the wound is followed by a demolition phase. By the fifth day, the incisional space is filled with granulation tissue. During this 5 - d a y s interval the epidermis usually recovers its normal thickness and differentiation of surface cells yields a mature epidermal architecture with surface keratinization.

The pathological changes in both types of wound healing ; healing by primary intention and healing by secondary intention are very similar. The differences between healing by primary and secondary intentions are quantitative and not qualitative. In healing by secondary intention, the wound edges are widely separated so that healing has to progress from the base upwards as well as from the edges inwards.

From the clinical point of view ; healing of a well approximated incised wound is fast and leaves a small neat scar, while healing by secondary intention is slow and results in a large distorted scar.

Collagen is the essential product of the fibroblast that ultimately provides the tensile strength of healing wounds.

Most workers regard granulation tissue as an organ of contraction .

Modified fibroblasts (myofibroblasts) are responsible for the process of contraction of granulation tissue in healing wounds.

Wound healing is delayed by local factors as poor blood supply , infection , movements , exposure to ionizing radiation and adhesions to bony surfaces. General factors as protein deficiency , steroids, cold weather and scurvy , also delay wound healing.

Destruction of an area of tissue (in wounds) leads to a lack of specific chalone locally. This results in proliferation of adjacent cells so that the original bulk of tissue is restored. Wound dehiscence means the bursting open of a wound . It is especially important after laparotomy .

Keloids are more common in the young , especially girls , in black peoples and in tuberculous subjects .

Cicatrization is late reduction in the size of the scar and may produce great deformity . Pigmentary changes , implantation cysts , painful scars , and weak scars may also complicate wound healing.