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Dermatologic effects

Keloids observed 2 years after exposure



Courtesy of Hiroshima Peace Culture Foundation

Keloids

1. Atomic bomb burns

Atomic bomb burns extended over large areas of the body surface, with high mortality rates due to second or third degree burns. Even if recovery occurred, the scars were far greater in size than in usual burn cases, and instead of being restricted to one site, scars formed over various parts of the body.

After an apparent recovery, the scars swelled in 1946 to 1947 and became keloids. Today virtually all keloids have become inconspicuous, but the problem remains of whether a relationship exists with the development of skin cancer.

2. Initial period and non-active phase scars

Keloids can be classified into initial period and non-active phase scars, each having their own characteristics.

Initial period scars:

1. These scars occurred in 60 - 70% of burn cases, a rate much higher than in normal burns.
2. The incidence with respect to distance from the hypocenter was 47% at 1.0 - 1.3 km, 68% at 1.4 - 2.0 km, and 50% at 2.1 - 2.5 km.
3. Although scars can appear anywhere on the body, the sites were restricted due to clothing cover. Amongst atomic bomb survivors, scars frequently occurred on the arms, shoulders and legs.
4. The scars sometimes display severe pain and itchiness.
5. In cases undergoing early resection, there was an extremely high rate of recurrence (80%).

Non-active phase scars:

These are scars which can be observed after 10 years or more; the elevated skin lesions became reduced to hypertrophic or strand-shaped scars. Post-operative recurrence rates following surgical resection during this period were low (under 5%).