Moxibustion (MX) treatment induces the change of cellular as well as interstitial connective tissue profiles. However, the effects of MX treatment on the connective tissues and the tissue remodeling process are not fully studied yet. Morphological changes in mouse back skin, especially dermal connective tissue, were examined after MX treatment by light and electron microscopy.

Anesthetized mice (ddy, 8 w old, F, av wt 36.6 g) were depilated at the trunk skin and were treated with various amounts of MX. Skin fragments from the area were taken just after a treatment, 1 day after a treatment and just after consecutive treatment with 1 day interval. They were fixed with Karnovsky's fixative and processed for light and electron microscopy. For light microscopy, sections were stained with either hematoxylin and eosin, AZAN, silver or toluidine blue.

Electron microscopy showed degenerated epidermal cell layer and increased number of mast cells just after MX treatment. Unwinding collagen fibrils were prominent. Twenty-four hours after treatment, unwinding fibrils decreased in number. Instead, tightly winding fibrils, sometimes thicker ones, were observed in a similar area. D-period of collagen fibrils did not change in any situation. With AZAN staining and light microscopy, collagen fibers were stained blue in the control specimen while dermis was stained red just after MX treatment. The red portion still remained in the surface of the dermis after 24 hr. With silver staining, collagen fibers were stained dark gray just after MX and returned to deep red 1 day after. Toluidine blue showed prominent metachromatic mast cells after MX. By consecutive treatment or increasing amount of MX, affected area were expanded and regeneration process prolonged. Present results give the basic data on the degeneration and regeneration process of dermal connective tissue of mouse after moxibustion therapy.