X. 9. STEM CELL THERAPY ENRICHED WITH HERBAL EXTRACTS FOR ENHANCED WOUND HEALING

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Stem cells are like blank microchips that can ultimately be programmed to perform any number of specialized tasks. This unique characteristics make stem cells very promising for supplying cells to tissue engineering for replacement therapies and to treat debilitating diseases. Mesenchymal stem cells (MSC) –the non-hematopoietic components of bone marrow are highly plastic, can differentiate into multiple cell types and are the cells suitably applied in cell therapy. These cells do not cause immune rejection on transplantation. The MSC were isolated from C 57 BL/6J mice, purified, cultured in a medium supplemented with herbal extracts having antibacterial and healing principles. Elevation in hydroxyproline estimation, collagen rich regions in Masson trichrome staining and collagen type III in SDS-PAGE analyzed the stem cell plasticity revealed by enhanced wound healing in mice wounds. Source of male stem cells to female recipients was confirmed by the amplification of male specific ZFY genes in female recipients in PCR analysis.