Indian Journal of Experimental Biology
Vol. 61, December 2023, pp. 905-910
DOI: 10.56042/ijeb.v61i12.6514

Immature mast cells predominate in skin wound repair in senescent mice

Coelho Monique Macedo, Barreto Rafaela De Melo, Resende Juliana Aparecida Pinto De, Monteiro Juan Filipi, Castro Rosiane Aparecida De, Pinto Flávia Carmo Horta, Carvalho Claudia Rocha & Costa Raquel Alves*

[1]Natural Science, Federal University of São João del Rei-Brazil

Received 08 November 2022; revised 04 August 2023

Role of mast cells in various phases of skin wound healing is well reported in literature. However, there is much controversy about the importance of mast cells in skin wound repair. Few studies have demonstrated the presence of mast cells in skin wound repair in middle-aged and senescent individuals. The mast cells are resident cells in the skin and participate in the inflammatory process and wound repair response. It is known that there are major changes in the immune system with aging, including in the skin. In this work, we evaluated the density and maturation of mast cells (mature, intermediate and immature) at the edges of skin wounds in young, middle-aged and senescent mice by toluidine blue and alcianine-safranin blue staining. We found that there is a significant decrease in mast cells in senescent mice. There is a predominance of immature mast cells at all ages 5 days after injury. But the data are intriguing, as in senescent mice there are fewer mature mast cells. Further studies should be carried out to understand the role of mast cells during aging.

Keywords: Aging, Wound healing