The immune system, an essential aspect of survival, consists of multiple lines of defense to combat pathogen invasion of the body. One of the critical cells involved in immune response are mast cells, located in various tissues in the body, namely in the skin and the gut. The mast cell is commonly known to have a major role in allergic responses. However, recent studies observed that mast cells beneath the skin are also involved in suppressing the immune system during exposure to foreign particles, such as jet fuel, and UV radiation, by migrating to lymph nodes and releasing anti-inflammatory mediators. The key mediator involved in inducing this immunosuppression has been identified as platelet-activating factor (PAF). Contrastingly PAF has been known to induce inflammation in other parts of the body. As characteristics of mast cells differ in various body tissues, it is unknown whether mast cells from other parts of the body would show similar reactions to PAF. Thus, this literature review aims to address whether dermal and intestinal mast cells show similar behaviours at various concentrations of PAF, specifically in migration to lymph nodes and levels of inflammation. Based on previous research, it is predicted that intestinal mast cells do not exhibit lymph node migration due to a difference in PAF production and in receptors found on mast cells, but actually produce PAF and induce inflammation. This research can be further utilised to further understand how autoimmune diseases develop such as such crohn’s disease and for developing potential treatments.

Themes:

Check (highlight) the most applicable theme according to the abstract.

| Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments:

It may be beneficial to clarify if PAF a protein present in mast cells all over the body and thus, have an effect on intestinal mast cells when the mast cells are exposed to PAF. Also, this sentence is a little hard to follow: Based on previous research, it is predicted that intestinal mast cells do not exhibit lymph node migration due to a difference in PAF production and in receptors found on mast cells, but actually produce PAF and induce inflammation.