ATOPIC ECZEMA/DERMATITIS

A COMPARATIVE STUDY OF THE THERAPEUTIC EFFECT OF OMALIZUMAB VERSUS PIOGLITAZONE ON THE SERUM LEVEL OF IMMUNOGLOBULIN-E AND INTERLEUKIN-17 IN EXPERIMENTALLY INDUCED ATOPIC DERMATITIS BY OXAZOLONE IN MI

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Background: Atopic dermatitis (AD) is a highly pruritic chronic inflammatory skin disease that commonly presents during early childhood, may persist into adulthood and is difficult to treat. Most AD patients exhibit high serum level of IgE. AD has an immunologic basis, both innate and adaptive immune responses are impaired in AD patients. T cells are one of the major players of adaptive immunity and have a critical role in the pathogenesis of AD. The infiltration of Th17 cells in AD skin lesion has also recently been reported.

Learning objectives: efficacy of omalizumab in comparison to pioglitazone in AD in mice as regarding clinical, dermoscopic and laboratoty based data.

Methods: Sixty female mice, randomly assigned to six groups each is (n=10): The first group received 100 % ethanol, the second, third and fourth group were sensitized with 0.5 % oxazolone, the third and fourth groups then subdivided into two groups to demonstrate possible effect on acute and chronic AD, third group received omalizumab, while the fourth group received pioglitazone.

Result: administration of pioglitazone and omalizumab improved clinical symptoms and it was confirmed by dermoscopic pictures and histological analysis, however pioglitazone group was significantly better ($p < 0.001$*). In pioglitazone group, ear swelling, ear weight and spleen weight were signicantly lower than the control group. Moreover, elevation of IL-17 and IgE were suppressed by both drugs, IL-17 suppresion was better with pioglitazone, however suppression of IgE was better with omalizumab. In addition, deterioration in TEWL and hydration show better improvement in pioglitazone group

compared to omalizumab group.

Conclusion: pioglitazone and omalizumab can alleviate inflammatory symptoms in AD by reduction of IL-17 and IgE in peripheral blood, and improve both TEWL and hydration. Indeed, pioglitazone exhibited promising therapeutic possibility in AD.