Demodex ectoparasite and its association with facial skin lesions in women

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Introduction: Demodex mites are microscopic arachnids found in the normal skin of many mammals especially humans. Although these ectoparasites are normal parts of skin flora, it is well established that demodex mite density is higher in patients with the facial skin lesions. The infestation by these mites including *Demodex folliculorum* and *Demodex brevis* can lead to demodicosis. The existence of demodex mites in human skin can have a role in some inflammatory skin diseases such as rosacea, acne, blepharitis and dermatitis. The aims of this study were to evaluate the prevalence of demodex ectoparasite infestation in women and its association with the facial skin lesions in women

Methods: Fifty women with symptoms and skin lesions such as acne, rosacea, dermatitis, skin redness, itching, burning, peeling, and pimples on the face (case group) and 50 other individuals who were healthy and have no skin lesions or symptoms (control group) were selected and were evaluated by clinical and laboratory tests. The study was approved by the Ethics Committee and the volunteers provided written informed consent. The skin scrapings were investigated by placing in a 10% potassium hydroxide (KOH) and lactophenol solutions and were analyzed under microscope to detect the demodex. In the prepared smears, demodex positive cases were photographed and the definitive identification of *Demodex* was done by comparison of its characteristics with the morphological parameters described in valuable references.

Results: Twenty-two out of 50 women with acne, rosacea, dermatitis and eczema (case group) had *Demodex folliculorum* infestation (44%). The highest levels of infestation were observed in women aged 20-30 years (22%), and the infestation of *Demodex folliculorum* was only confirmed in 10 persons (20%) out of the 50 women without skin lesions (control group).

Conclusion: The rate of *Demodex* infestation in case group (women with skin lesions including acne, rosacea, dermatitis and eczema) was higher than the control group (women without skin lesions). There was a significant statistical association between *Demodex* infestation and facial skin lesions in women (sig.= 0.023, $P< 0.05$). The authors suggest that *Demodex* treatment should be considered in the therapeutic strategy of some inflammatory skin diseases.

Keywords: *Demodex*, *Demodex brevis*, *Demodex folliculorum*, ectoparasite, facial skin lesions, women