

INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

HUMORAL IMMUNE RESPONSE TO ESCHAR LESIONS ON SKIN IN ANTHRAX INFECTION

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Background : Anthrax is an emerging disease due to contact with infected animals or spores in endemic areas. Spores get into the body through direct contact or inhalation. In the body, spores become vegetative then multiply and produce Edema Toxins (ET) and Lethal Toxins (LT) later they combined with furin causing humoral immune response in the form of Immunoglobulins (Ig) G and M until eschar appears.

Objective : This study aims to assess humoral immune response during occurrence of eschar in people with cutaneous anthrax.

Material and method : An observational study was conducted based on Ig G titer of people exposed to anthrax.

Results : There are 15 people suffered from anthrax with eschar ranging from mild to severe. All subjects had the increase of Ig G titer and eschar appeared on the face, extremities and buttocks. Mild eschar occurred on the tips of the toes 40%, hand up to arm 50%, upper and lower extremities 82% and face 10 %. Seventy five percent of the subject had direct contact with infected animal 20% had indirect contact and 5% had no contact at all. The increase of Ig G titer > 0.9 was not followed by the number and extent of the eschar. There was no relation between increased human response and occurrence of eschar (p=0.56).

Conclusion : Anthrax spore exposure result in the occurrence of humoral immune response, but it is not significant related to the appearance of eschar. Therefore increased humoral immune response is not followed by the severity of the eschar.