Al Eskan Disease: Desert Storm Pneumonitis

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After the deployment of US military forces to the Persian Gulf, a fulminating respiratory tract illness was observed in soldiers at Al Eskan village, Riyadh, Saudi Arabia. A few days after their arrival, a majority of soldiers exhibited mainly respiratory symptoms ranging in severity from minimal discomfort to severe respiratory distress.

Al Eskan is one of several villages built by King Khalid over a decade ago in an attempt to settle the nomadic Bedouins by relocating them from their tents into permanent housings. As the Bedouins did not move in, the villages remained uninhabited until the arrival of the US Forces during the operation ‘Desert Shield’.

A fine dust of sand conglomerated with pigeon droppings left a deposit several inches thick on every flat area in the abandoned village. This mixture of inorganic and organic material was inhaled as an aerosol by the soldiers during their efforts to make the houses habitable by freeing them from this dust. After 48-72 h of continued exposure, approximately two-thirds of the soldiers developed cough, chills and fever. The disease was self-limited and relapses were observed in less than 1% within 5-6 weeks.

The authors analyzed sand samples and found a mixture consisting of fibrous agglomerated dust (similar to ferruginous bodies) and nonagglomerated silicate grains with an average diameter of 0.1-0.25 µm. Cultures of the sand samples were negative for mycobacteria, Chlamydia psittaci and different viruses. The following fungi were isolated: Aspergillus niger, Chrysosporium and Cryptococcus albiolus. No samples from pigeon cloacae were collected.

Based on their observations, the investigators were able to exclude ornithosis as well as mycobacterial or fungal infections as a cause of this rather peculiar disease. Acute silicosis, as described in the Libyan Desert, the Negev Desert and in Saudi Arabia many years ago, could also be excluded. The hypothesis is put forward that ‘Al Eskan disease’ represents a type of hyper-ergic lung condition and that the mixture of small silicate grains with pigeon droppings might play a crucial role in the pathogenesis of this hitherto unobserved disease. Obviously, due to the unexpected occurrence and self-limited course of this mysterious disease, as well as the limited medical facilities under war conditions, no data on pulmonary function tests, chest X-rays, immunological blood studies or eventually bronchoalveolar lavage procedures are presented. Furthermore, no data are given about controlled reexposure procedures, inhalation challenges or animal experiments. Therefore, for the time being ‘desert storm pneumonitis’ remains an interesting clinical observation.