

Military dermatology: A regional perspective

Arfan ul Bari

Dermatology Department, CMH Malir, Karachi

Dermatological ailments have become a major source of morbidity in recent past and dermatology has emerged as an important branch of medical science. In military settings, dermatologists have attained a significant role in declaring candidates medically fit to perform military related activities at the time of recruitment and later on in maintaining overall readiness and health of troops both at the time of war and peace. Dermatology practice in armed forces is somewhat different, because in military service, soldiers, sailors or airmen are exposed to a wide variety of environmental, geographical, chemical, biological and nuclear hazards due to peculiar deployments of troops. The primary purpose of military dermatology becomes to support the active duty soldier wherever he or she may be assigned. Military patients may bring remote diseases and unusual injuries through exploring deserts, climbing snow covered mountains and wandering in thick forests.

Many cutaneous skin disorders in military troops are not life-threatening or incapacitating, but persistent nature of symptoms and ongoing nuisance such as itch and pain may severely undermine a soldier's combat performance either from days lost to service or from downgraded performance. Furthermore, the propensity for mechanical skin trauma due to

combat activities, combined with suboptimal field hygiene conditions, often prolong the time to full recovery from highly treatable dermatoses such as cutaneous fungal infections, eczemas and psoriasis, etc. This consequently lowers the morale and fighting spirit of troops, which can prove to be the decisive factor in the campaign outcome.

During the First World War, dermatoses alone accounted for over 2 million days of service lost by U.S. troops over the period of the war. In Second World War, dermatological conditions accounted for 15%-25% of outpatient consultations in temperate theatres of war, but up to 75% in the tropics reflecting geographical variation in pattern of skin affliction.^{1,2}

Since creation of Pakistan, its military has been confronting with diversified challenges like extremes of temperature, geographical diversity and environmental hostility. On snow covered mountains in Northern Areas (where temperature may go as low as -40°C) troops are frequently confronted with cold related dermatological disorders from hypothermia, trench foot, chilblain to frostbite. On the other hand they are also exposed to extreme heat (40°C to 50°C) in interior of Sindh province, southern and central Punjab, along eastern border and some areas of Baluchistan where hot and humid environment predisposes to skin disorders such as miliaria rubra and cholinergic urticaria, as well as, various forms of fungal, bacterial and viral infections in soldiers. The subtropical climate in FATA, central northern regions and Azad Kashmir encourages the

Address for correspondence

Col Dr. Arfan ul Bari,
Department of Dermatology,
Combined Military Hospital,
Malir, Karachi
Email: albariul@gmail.com

thriving of arthropods, leading to arthropod-bite reactions, vector-borne tropical infections with dermatological manifestations and parasitic skin infections. The operational impact of these seemingly innocuous cutaneous conditions should not be underestimated.

In post 9/11 scenario, Pakistan Army became heavily engaged in anti-terrorism campaigns. During this ongoing war against terrorism, it has successfully conducted various counter-insurgency operations in the Khyber-Pakhtoonkhwa and FATA regions which caused deployment of large number of its troops in these areas. This shifting and relocation (largely moved from central Punjab), exposed the troops to the diseases endemic there especially cutaneous leishmaniasis (CL), dengue fever and other viral hemorrhagic fevers. This exposure of troops (relatively non immune to these diseases) made them more vulnerable to contract these diseases as compared to native population resulting in tremendous increase in the incidence/prevalence of CL in troops.³

This new dimension has provided a chance to military dermatologists to explore various aspects of these diseases in detail. They took up the challenge and made significant contributions towards understanding of the epidemiology, pathogenesis, diagnosis, and treatment of these diseases. Especially in case of CL, the complicated epidemiology of the parasite, deficiencies in rapid, reliable diagnostic tests, and the need for safe, less costly and more effective treatment prompted dermatologists to work on these very aspects. Dermatologists have endeavored to contribute significantly both at regional and international level by adding new scientific knowledge impacting this ubiquitous infectious disease. In addition to frequently described large number of clinical variations of CL, recently significant work has been made in collaboration with London School of Hygiene

and Tropical Medicine (LSHTM) to delineate species diversity and molecular level diagnosis of *Leishmania* parasite.⁴ There is an impending need to continue more such projects in collaboration with prestigious international scientific institutions, as well as, to establish a local center equipped with all advanced research facilities focusing more on diagnostic, therapeutic and preventive aspect of this disease endemic throughout the country.

Moreover, a large number of publications in international literature on various aspects of CL from Pakistan has attracted several international scientific institutions and organizations who want to collaborate and send their physicians to attain clinical expertise in CL. Pakistan Association of Dermatologists must play an active role along with dermatology department Military Hospital, Rawalpindi to establish a research center in this regard where all efforts must be made to improve molecular level diagnosis, formulate cost-effective, evidence-based therapeutic options and above all to discover an effective vaccine that can fight future challenges and should also provide advanced structured training facilities to those interested to pursue their career in this field. An action committee may be constituted at earliest to make curriculum and to take all other necessary measures in this regard. Currently College of Physicians and Surgeons (CPSP) is also starting membership program in subject of Military Medicine. This is high time to get military dermatology incorporated as part of this discipline.

Pakistan military has traditionally been an integral part of UN peace keeping missions in various troubled regions like western, central and eastern Africa, East Timor and Bosnia etc. and this has given an extra opportunity to military dermatologists to explore diverse ethnic dermatology disorders.⁵

References

1. Mackenna RM. Experiences in Military Dermatology. *Br Med J*. 1943; **14**; 2(4310): 191-4.
2. Pilsbury DM, Livingood CS. Experiences in military dermatology; their interpretations in plans for improved general medical care. *Arch Dermatol Syphilol*. 1947;**55**;55:441-62.
3. Bari AU, Hashim R, Mahmood K, Muhammad I, Shahbaz N, Tariq KM. Clinico-epidemiological pattern of cutaneous leishmaniasis in armed forces personnel fighting war against terrorism in Khyber Pakhtunkhwa Province and Fata regions. *J Pak Assoc Dermatol*. 2011;**21**:10-5.
4. Khan NH, Bari AU, Hashim R, Khan I, Muneer A, Shah A *et al*. Cutaneous leishmaniasis in Khyber Pakhtunkhwa Province of Pakistan: Clinical diversity and species-level diagnosis. *Am J Trop Med Hyg*. 2016;**95**:1106-14.
5. Bari AU. An overview of ethnic skin disorders in black Africans of Sierra Leone (West Africa). *Hous Personal Care Today*. 2010;**3**:31-4.