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250 Years of Military Dermatology: The British Army Experience

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Summary

The British Army has encountered significant morbidity due to skin disease from the eighteenth century to the present time. The young age and pre-deployment screening of soldiers coupled with adverse environmental conditions produce a predominance of infective and eczematous conditions. The dermatologist still has a significant contribution to make in keeping the individual soldier healthy.

Résumé

Du 18e siècle à nos jours, l'armée britannique a constaté une morbidité importante due aux maladies dermatologiques. Une prédominance des infections et de l'eczéma se révèle dans les résultats des tests effectués avant le déploiement des soldats. Aujourd'hui, le dermatologue peut significativement contribuer à la protection de la santé de chaque soldat.

Introduction

During a military deployment the population consists predominantly of young healthy adults. Significant disease, including that of the skin, is a common reason for recruit failure (1). This measure combined with the adoption of employment medical grading systems restricts active service to those who are fully fit. For example, soldiers with skin disease would not have been deployed during the Gulf War (2). It is not surprising that 'military medicine' is often thought to be primarily the surgical treatment of injuries and wounds. However, since the First World Warthe General Staff have been exhorted to 'take into account the wastage from sickness as much as that from wounding' (3). The Second World War confirmed that the majority of hospitalisations were for 'disease and non-battle injury' (4).

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Throughout this century British troops have had access to primary care medical officers in a ratio of 1:700 men. Field hospitals are located close to fighting providing secondary Gare. Dermatologists in accordance with their war role were deployed as general physicians during the Gulf War (2).

The importance of military dermatology to the British Army was first recognised by Pringle in a review of morbidity during the Flanders campaigns of the eighteenth century (5). Military medical statistics were formalised by Tulloch who initiated an annual analysis of morbidity and mortality for the Army in the nineteenth century (6). These measures were designed for peace time use - they coped well with the Boer War, but rapidly collapsed under the stress of the First World War. The system was reformed in November 1914. Despite this it proved practical to analyse only a fraction of medical events resulting in an estimation of total casualties (7). By contrast comprehensive statistical data is available for the Second World War and subsequent campaigns (4, 8).

Table One

Hospital admissions during major conflicts this century

	Crimean War 1854-1856[11]	Boer War 1899-1902[7]	WWI 1914-18 NW Europe[3,7]	WWII March-May 1943 Tunisian Campaign[4,9]	WWII 1944-45 NW Europe[4]	WWII 1945 Indo-Burma Front[4]	Falklands Conflict Jan-Dec 1982[5]	Gulf War Oct 1990-Dec 1991[6]
Overall hospital admission rate	460/1000 per quarter	193/1000 per quarter	162/1000 per quarter	126/1000 per quarter	55/1000 per quarter	202/1000 per quarter	1/1000 per quarter	5/1000 per quarter
Percentage inpatients with surgical disease	**9**	7	38	**40**	35	15	80	42
Percentage **inpatients with skin disease**	**9**	5	**5**	**11**	7	6	**3**	5
Percentage inpatients with other non-surgical disease	**82**	**88**	**57**	**49**	**58**	**79**	**17**	**53**
Commonest skin diagnoses in order	**Infection Infestation**	**Infection**	**Infestation Infection**	**Infection Infestation Eczema Psoriasis**	**Eczema Infestation Infection**	**Infection**	**Infection**	**Eczema Infections Infestations**

The aim of this paper is to identify the contribution skin disease has made to the overall morbidity of the British Army during past and contemporary conflicts.

Method

The authors carried out a manual literature search from two main sources : government publications produced since the nineteenth century (3,4,6,8,9) and eighteenth century medical diaries and health reports relating to specific campaigns (5, 10, 11).

The first sources provided admission rates in different theatres categorised by disease from which average percentage surgical and medical admission rates were derived.

The earlier sources provided anecdotal and informed medical assessment of the health of the Army during historical campaigns.

Results

Table one shows the historical burden of military dermatology in the context of casualty admission rates to field hospitals per thousand soldiers deployed and the division between surgical (battle and non-battle injury) and non-surgical causes.

During the Gulf War, 157 British soldiers were admitted to hospital with dermatological disease. Table two shows the diagnoses of 95 patients seen at a dermatology outpatient department in one British field hospital during this war.

Discussion

Superficial consideration suggests a limited role for a military dermatologist probably far from the fighting. However, for 250 years dermatological disease has resulted in a significant morbidity for the British Army.

During eighteenth century campaigns Pringle and Buchanan noted that infestation amongst the troops was universal and that the inpatient treatment with topical sulphur lead to a significant added morbidity (5, 10). Skin disease has not afflicted the enlisted man alone. The Duke of Wellington, in 1801, was incapacitated for over a month in India with 'Malabar Itch'-Tinea imbricata, a tropical dermatophyte infection (12,13).

Table Two

Outpatient diagnoses during the Gulf war

Diagnosis	Total of cases
Infections	21
Infestations	7
Eczema	29
Psoriasis	5
Acute Urticaria	6
BCG abscess	2
Pseudofollicularis barbae	2
Pityriasis rosea	2
Rosacea	1
Acne vulgaris	3
Hidradenitis suppuritiva	1
Pigmented lesions	4
Insect bite reactions	1
Multiple epidermal cysts	
Solar keratoses	2
Polymorphic light eruption	1
Prickly heat	2
Phototoxic rash	
Erythroderma	
Darier's disease	
Acute Myeloid leukaemia	
Lichen planus	

Sir John Hall, chief of the medical staff during the Crimean War, kept detailed figures for hospital admissions throughout this period. Dermatological admissions were mostly the result of cellulitis and ulceration (11). This campaign demonstrated the predominance of medical over surgical admissions. This was maintained during the Boer and First World Wars (table one). The loss of manpower to skin disease in the Second World War was significant throughout the wide range of environments experienced in Europe, North Africa and Asia.

Prior to the Gulf War a significant morbidity had been predicted from dermatological disease within the operational theatre (14). 5 % of admissions to British military hospitals were for skin disease (table one). The range of pathology seen (table two) concurred with that of the American Army experience in that theatre (15) and confirmed the continued historical decline of infestations. Military dermatology was shown to be closer to primary care than civilian hospital practice with a high proportion of infections compared to neoplasms (16,17). All diagnoses in the Gulf War were made on clinical grounds without histopathological support.

A number of factors influence the workload of the military dermatologist. The individual soidier faces an adverse environment compared to civilian life: crowded living conditions, a lowered level of personal hygiene, extremes of temperature, increased UV light exposure and the burden of chemical warfare protective clothing. The young age of the military results in a low incidence of malignancies. Screening of the population at entry and pre-deployment reduces the number of chronic conditions that may be exacerbated. Social factors unique to the military alter presentation patterns. Acne vulgaris is rarely seen during wartime, the soldier and his commanders possibly viewing this as too trivial a condition to justify a hospital visit (15). Pseudofolliculitis barbae, a rarity in civilian practice, assumes great importance in the military when close daily shaving is required to allow the correct fitting of respirators (2). A common factor to military and civilian practice highlighted in the Gulf War remains the difficulty of accurate diagnosis of dermatological disease by non-specialists and the exacerbation of disease by inappropriate treatment (2, 18).

The Gulf War provided a reminder in the last decade of the twentieth century what eighteenth century observers (5) had established: adequate dermatological suppport for the Army at war is a necessity rather than a luxury. Recognition of this has implications both forfuture deployments and for the training of military primary care doctors amongst whom, as nationally, dermatological experience remains the exception (19).

Conclusion

In the recent government paper 'Front line First' (20) emphasis was given to maintaining the efficiency of front line units. For 250 years dermatological disease has afflicted the British Army from its lowest to highest ranks. The future need for front line units to have access to military dermatologists seems historically established.

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Biographies

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