

OP TELIC

Eye Casualties During Operation Telic

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ABSTRACT

Aim

To audit all eye casualties presenting to a British Army Field Hospital during the conflict period of Operation Telic between the dates 27th March and 1st May 2003.

Method

A retrospective analysis of entries into the attendance register and clinical notes from the Emergency Department of 34 Field Hospital.

Results

Forty five eye casualties were seen in the Emergency Department of 34 Field Hospital and they accounted for 2.0% of all attendances (n=2292). Of these, eye injuries were the commonest (58.7%), whilst the diagnosis of conjunctivitis was the most frequent non-traumatic presentation. A total of 6 casualties required transfer rearwards to a specialist UK facility. Of all eye casualties seen, 6 were of non-coalition status.

Conclusions

Eye patients account for a significant proportion of the total number of casualties seen during the warfighting stage; only 25% of eye injuries can return to active duty, compared with 85% of all surviving wounded. Importantly, even minor eye injuries or infections can rapidly incapacitate personnel and if untreated cause permanent severe visual loss. The prompt diagnosis of ocular pathology, coupled with appropriate treatment in the field or evacuation for advanced care, can limit potential sight-threatening sequelae.

Background

The trend of earlier wars shows that the incidence of ocular injuries and diseases in wartime is increasing (1). Battlefield injuries involving the eye and its adnexa can rapidly incapacitate personnel and cause permanent severe vision loss and, therefore, early recognition, coupled with appropriate treatment can limit the sight-threatening sequelae of ocular trauma.

34 Field Hospital deployed from Northern Kuwait to Al Shaibah Airbase in Southern Iraq, in order to provide Role 3 medical support to 1 UK Division's activities in this region. The initial set-up was that of a 25-bed unit which began to receive casualties on 27th March 2003 before the installation of the full 200 bed facility a few days later.

This article aims to assess the number and type of eye casualties seen during this conflict in order to deal with the issues relevant to future operations during the warfighting stage.

Method

A retrospective analysis was carried out of all medical records and attendance logbooks from the Emergency Department of 34 Field Hospital. Data was collected from 27th March until the end of the conflict, which was declared on 1st May 2003.

Results

Over the 36 days of conflict, the Emergency Department of 34 Field Hospital saw 2292 patients, including 237 (10.34%) of non-coalition status. 45 (2.0%) eye casualties were seen during this period of which 6 were non-coalition. Corneal abrasions and corneal foreign bodies (23/45) were the most common injuries treated, whilst conjunctivitis (10/45) was the most common disease. Chemical injuries occurred secondary to direct, accidental contact and three cases followed petroleum spillage. The types of cases seen are shown in Chart 1.

Examination according to presenting complaint and diagnosis varied and importantly, 7 (15.6%) patients had no record of visual acuity in the notes. Fluorescein examination was not recorded in 9 (20.0%) patients. These figures are shown in Table 1.

The seven cases which required evacuation to 202 Field Hospital for assessment by a Consultant Ophthalmologist consisted of: petrochemical injury (3); corneal abscess (2); corneal abrasion (1) and iritis (1). Importantly, both cases of corneal abscesses occurred in contact-lens wearers and both required evacuation to a Role 4 facility in the UK.

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Chart 1. Eye cases seen at 34 Fd Hosp.

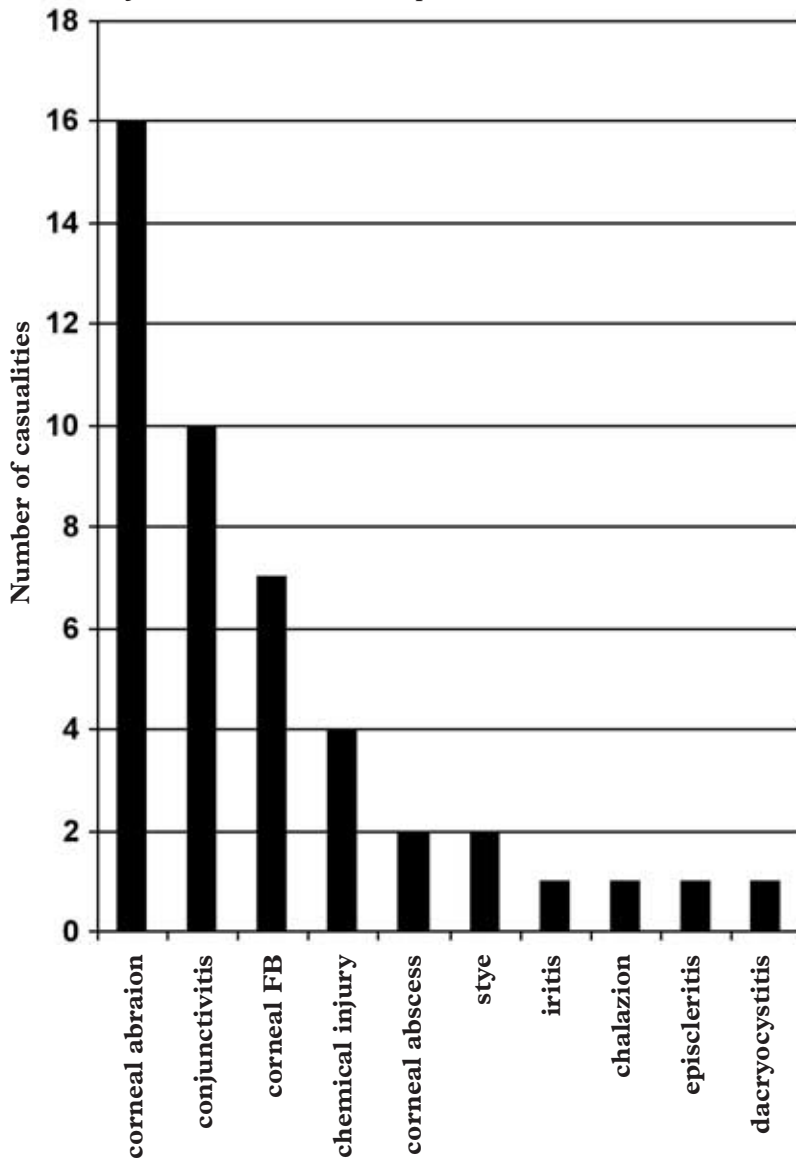


Table 1. The number of eye casualties with no visual acuity or fluorescein examination recorded as part of the presenting complaint.

Presenting complaint	Number of patients	Visual acuity not recorded	No fluorescein examination
FB sensation	13	3	1
Red eye	11	0	1
Eye pain	11	3	5
Chemical injury	4	0	1
Discharge	3	1	1
Photophobia	2	0	0
Blurred vision	1	0	0

Discussion

The proportion of eye patients (2.0%) seen in the Emergency Department of 34 Field Hospital was similar to that seen in a civilian department (3.6%) according to one report (2) but less than the number expected (10%) during a period of conflict (3). Although basic ophthalmic equipment was available within 34 Field Hospital, specialist facilities were to be found at 202 Field Hospital and on board RFA Argus. A number of eye

casualties were taken direct to these stations, bypassing 34 Field Hospital, thus implying good use of the evacuation chain by medical units and explaining the less than expected number of patients seen.

The recording of visual acuity is mandatory for all eye patients. 15.6% of the eye casualties at 34 Field Hospital had no such record which is better than the 44% of A&E cases without a record of visual acuity in one study at the Western Eye Hospital (4). This report highlighted the significant difference in the quality of assessment between the Emergency Department and the Eye Casualty Department in the history, examination and management of eye patients. This underlines the fact that improved training is required within the Emergency Department so as to achieve better standards in ophthalmic care. One method to achieve this should be through a concise ophthalmic course for all casualty officers as part of any pre-deployment medical training.

Fluorescein examination is a quick and easy tool to assess corneal integrity. 20% of the eye cases seen at 34 Field Hospital had no record of fluorescein staining having been performed. Previous conflicts in the Gulf, with conditions similar to those during Operation Telic have shown a high incidence of corneal injuries (5), thus emphasising the fact that fluorescein staining should form part of any ophthalmic examination. All of the casualty officers at 34 Field Hospital had experience of using the slit-lamp biomicroscope in assessing anterior segment pathology. Therefore, in order to ensure a more complete examination, it is advisable to have this instrument available in all field hospitals.

With regards to the number of corneal injuries seen, it must be stressed that education and prevention are a fundamental part of the management. However, one of the major problems of eye injury prevention programmes in the military is that of low compliance among individual soldiers with eye armour (6). Studies have shown appropriate eyewear to significantly reduce the risk of eye injury (7) and its use in the military is to be encouraged, especially in those individuals at most risk of exposure to hazards. However, prevention extends beyond eye armour to include proper education on contact lens wear according to environment. The two cases of corneal abscesses seen were both associated with contact lens wear. It has been shown that environmental humidity is a critical component influencing tear film stability and evaporation and that disposable contact lens use is a risk factor for microbial keratitis (8, 9).

In order to make documentation more straightforward, it is recommended that a specific and separate medical form be used

for eye patients in the field, thereby ensuring that the history and examination findings are recorded with the rest of the patient's details. An example of such a form is shown in Appendix 1.

The allocation of ophthalmic resources for future operations is dependant on the nature of the mission. During Operation Resolute, a peace-enforcement mission in Bosnia-Herzegovina, 4% of repatriations to the UK were due to eye injuries (10), thus highlighting the fact that ophthalmic cases are prevalent in OOTW and during the warfighting stage.

In summary, eye casualties seen on Operation Telic during the period of conflict made up a significant proportion of the total number of patients seen in the Casualty Department. Future operations should place emphasis on training and equipment, timely evacuation to a surgical facility and a comprehensive eye protection programme in the military.

References

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Appendix 1. Proposal form for eye patients seen on future operations

Name:	D.O.B:
Rank:	Number:

Right		Left
	Visual Acuity	
	(with pinhole)	

Presenting complaint:

History:

Past Ocular History:

Past Medical History:

Medications:

Allergies:

O/E

Right

Left

General

Extraocular movements

Lids

Conjunctiva

Cornea (fluorescein stain)

Anterior chamber

Pupil response

Fundus

Impression:

Management: