
SHORT PAPER

Child Patients In A Field Hospital During The 2003 Gulf Conflict

D Heller

ABSTRACT

During the 2003 conflict in the Gulf, 202 Field Hospital provided the initial Role 3 medical support when hostilities began on 20th March. The first child casualty arrived two days later and over the next four weeks there were 24 admissions of patients aged 15 years or less, amounting to 2% of the total admissions but constituting 19% of ITU admissions. There were 49 operations on children out of a total of 352 theatre cases. The small number of children treated had a disproportionate impact on the functioning of the field hospital. Planned provision for such patients could reduce this impact and should include suitable equipment and specialist staff.

Introduction

The field hospital provides Role 3 medical care for both friendly and captured enemy troops wounded as a direct result of battle, those injured in accidents incurred during troop movements as well as the routine medical and surgical conditions prevalent in the at-risk population of mostly fit young men and women; it is not established with the specialist staff or equipment to deal with child casualties. Once a child or obstetric casualty has entered the evacuation chain, however, it may prove difficult to prevent their arrival at the field hospital. This report briefly describes 202 Field Hospital's experience of this problem during the 2003 Gulf conflict and discusses how it might be dealt with in future.

Method

Details of all children aged fifteen years or less admitted during the initial four weeks of the six-week deployment of 202 Field Hospital in Northern Kuwait were collected contemporaneously by the author. The data included name, sex, age, diagnosis, the treatment given including the number of visits to theatre, and date of admission and discharge. Information was correlated with a concurrent study of all theatre cases and through personal contact with staff of the PCRf on RFA Argus.

Results

There were 24 children admitted to the field hospital plus one 30 year old woman, 30 weeks pregnant and believed to be in premature labour, representing 2% of the 1213 overall admissions during the study period. Forty nine operations were carried out on 17 children - 15% of the total operative workload in this period with a median number of 3 operations per child. One child (identified as patient 17 in Table 1) with burns had 6 procedures. 19% of all admissions to ITU were children. At least ten out of 24 of these children were transferred from 34 Field Hospital, which was set up in Southern Iraq shortly after the beginning of the conflict and are also reported in Gurney's paper on paediatric casualties elsewhere in this edition. Table 1 details the paediatric admissions to 202 Field Hospital.

Discussion

These data were collected over the first four weeks of a six week deployment period. There may have been more children admitted during the remaining two weeks but an audit of theatre cases shows that if there were paediatric admissions, they did not require an operation (1). Data collection was hampered by the inadequacy of age / date of birth recording on casualty treatment cards and although an audit of admissions to the field hospital was performed, this study represents the only information on child casualties available for this phase of the war in this facility. It is important for future planning that robust sources of patient information exist and this must include date of birth or at least a best estimate of age.

Whilst the number of cases was small, the effect on the field hospital in terms of resources diverted towards management and evacuation of children was considerable. There is evidence that medical staff may over-triage children (2) and the high proportion of children admitted to ITU may reflect this. As numbers increased a specific ward was set aside where paediatric expertise and care could be concentrated after which the pressure on ITU eased, but this in turn meant that a sixth of the field hospital's bed capacity was then given over to paediatric patients. Definitive, or at least interim care for the children had to be provided in the field hospital whilst they awaited evacuation, meaning that multiple operations were

Maj D Heller
RAMC(V)
243 Field Hospital
Ashmead Road,
Keynsham,
Bristol BS31 1SX
Email:
dougheller@doctors.org.uk

Table 1. Paediatric patients admitted to 202 Field Hospital (20.03.03 to 19.04.03).

Pt.	Age	Presentation and Procedures	Pt	Age	Presentation and Procedures
1	4/52	UTI due to indwelling catheter.	13*	7 yrs	Abdominal & limb fragment wounds & faecal peritonitis. Laparotomy, debridement of limb wounds, secondary closure of limb wounds.
2*	6/12	Facial Burns. Transferred.	14	7 yrs	Fragment injuries to lower limbs. Bilateral amputations.
3	15/12	Status epilepticus in child with cerebral palsy. Fits terminated.	15*	7 yrs	Gunshot wound to head, fragment wounds to forearms and hands. Transferred.
4*	18/12	20% scalds to buttocks. Debrided and dressed.	16*	7 yrs	Fragment injuries to forehead, eye, torso R hand & knee. Debrided, knees washed out, delayed primary closure.
5*	3 yrs	Fragment wound to leg Debridement & fasciotomy, dressing change, DPC.	17*	8 yrs	25% burns to both legs. Debridement and grafting. Dressings.
6	3 yrs	Fragment wounds to head and chest. Previously treated ? where. Observation & physiotherapy.	18	10 yrs	1 year old facial and chest burns. Recent grafting infected. Conservative treatment.
7	3 yrs	Fragment wounds to R thigh. Acute lymphoblastic leukemia. Debrided.	19	11 yrs	Parietal skull #, focal fitting. Phenytoin for fits.
8	4 yrs	Shrapnel injuries with # R fibula. POP, mobilisation.	20	13 yrs	10% petrol burns. Both parents severely burnt. Transferred.
9	4 yrs	Fragment wounds to abdomen and leg.	21*	14 yrs	80% burns. Transferred
10*	5 yrs	12% oil burns to face, chest, arms & leg. Debrided and dressed.	22*	15 yrs	Facial fragment injuries. Explored and closed.
11	5 yrs	4% burns to face and arm. Gastroenteritis. Debrided and dressed.	23	15 yrs	Two week old 20% burns to lower limbs and genitalia. Conservative management.
12	6 yrs	Bilateral #s tibia by fragments. Debridement and stabilisation.	24*	15 yrs	Blast injury lower leg, thigh & index finger. Transferred.

Patients are listed by age rather than date of admission. DPC = Delayed primary closure of wounds. *admitted to ITU. Patients 2 & 21 were transferred to paediatric burns units in UK. Patients 20 & 24 were transferred to USS Comfort and patient 15 to RFA Argus. Patient 7 was transferred to Al Zubayr Hospital after wound healing for further management of leukaemia. All other patients were discharged home.

performed on some children before transfer to local health services could be arranged. Two children (patients 2 and 21 in Table 1) were transferred back to the UK for treatment because of a lack of definitive care available locally. Whilst there are benefits of such transfers, particularly access to high technology care (3), such transfers are resource-intensive and issues such as the disruption of the family, difficulty with coping in a foreign culture and that of ongoing care once the initial management phase is completed need to be considered.

One method of reducing this impact is the early evacuation of child casualties to appropriate local facilities; whilst strenuous efforts were made to arrange this through the International Committee of the Red Cross, many children stayed for longer than was medically necessary. It has been suggested that all children should be considered as neutrals (4) and this might assist the Red Cross in meeting the requirements of its charter to exhibit neutrality whilst at the same time engaging with a military facility. It must be anticipated that sometimes transfer will not be straightforward and ongoing care may be needed whilst awaiting evacuation.

These data highlight two issues which need addressing. The provision of appropriate equipment is essential. Children needing

endotracheal intubation were managed initially using tubes brought in the personal luggage of one anaesthetist and were reused a number of times. Whilst there are additional equipment modules available to the field hospital for special groups such as obstetric and paediatric patients, these were not available when required and much of the equipment proved unsuitable for modern practice. A core set of modern paediatric and maternity equipment should form part of the scaling of a field hospital. Secondly, no paediatric-trained staff are formally attached to the field hospital; luckily there were two consultant paediatricians and several paediatric nurses for part of the deployment who were able to assist in the management of children. In the first Gulf War, at least 60 paediatricians were deployed as field surgeons by United States Army Medical Services and performed 'after action civil affairs', treating children with burns and soft tissue trauma from exploding ordnance and severe dehydration secondary to gastroenteritis (5). A Combat Support Hospital treated hundreds of children after the main conflict, finding that the overwhelming problems encountered in the large refugee population were paediatric (6). Paediatricians will be expected to deal with young people up to 18 years of age as part of the National Service Framework for

Children (7); both they and paediatric nursing staff are familiar with dealing with infectious diseases, a major source of morbidity in the field and are used to responding rapidly to acute emergencies. They deal on a day-to-day basis with patients who, it might be argued, are closer in age, physiology and psychology to young soldiers and so could provide useful support to physicians who increasingly deal with patients at the opposite end of the age range. Consideration should be given to establishing paediatric doctors and nurses on the strength of a field hospital or as a deployable specialist team akin to the burns team used in this conflict.

Although it is difficult to anticipate the nature of future conflicts, recent wars have tended to have a greater direct involvement of civilians than previously (8). On humanitarian grounds, children should receive treatment to at least the standard that they might otherwise have done had the conflict not occurred and as a signatory to the UN Convention on the Rights of the Child (9), under Article 38 the UK has a legal responsibility to "take all feasible measures to ensure protection and care of children who are affected by armed conflict". There needs to be an examination of doctrine to determine how the seemingly conflicting priorities of providing a service for the needs of the armed forces whilst also meeting the needs of civilians involved in conflict can be reconciled such that the field hospital is still able to fulfil its primary purpose.

Acknowledgement

I am grateful to Surgeon Captain CR Kershaw for details of the patient transferred to RFA Argus.

References

- 1 Hammond JS, Laurence AS. Theatre workload in a field hospital during Gulf War 2. *Brit J Anaes.* 2003;**91** (3): 458-468.
- 2 Kaufman CR, Maier RV, Rivara FP, Carrico CJ. Evaluation of the pediatric trauma score. *J Am Med Assoc.* 1990; **263**:69-72
- 3 Southall DP, Ellis J, McMaster P, McMaster H et al. Medical evacuation from Mostar. *Lancet.* 1996;**347**:244-246.
- 4 Chambers TL. War medicine and the child. *J Roy Soc Med.* 2002;**95**:379-380.
- 5 Steele RW. A pediatrician in the Persian Gulf War: a reserve officer's view. *Pediatr Infect Dis J.* 1991;**10**: 639-642.
- 6 Brien JH. A pediatrician in the Persian Gulf War: a career officer's view. *Pediatr Infect Dis J.* 1991;**10**: 643-645.
- 7 National Service Framework for Children, Young People and Maternity Services. Department of Health. October 2004.
- 8 Plunkett MCB, Southall DP. War and the child. *Arch Dis Child.* 1998;**78**:72-77.
- 9 United Nations General Assembly. Convention on the Rights of the Child. New York: United Nations, 1989.