Terrorism, Trauma and Children

Lt Col MM Harjai*, Maj N Chandrashekhar**, Col Uma Raju⁺ Brig SS Jog⁺⁺,
Surg V Adm P Arora, SM, VSM[#]

Abstract

Background : Terrorist attacks, armed conflict and all forms of catastrophe, tax our ability to cope, understand and respond to the situation. Children are more vulnerable.

Material & Method : 16 children, victims of a terrorist attack in an army residential camp were managed for their physical injuries and evaluated for psychological trauma.

Results : All patients recovered from physical injuries, except one baby of two months, who died due to severe chest trauma. 5 children presented with Acute Stress Reaction. 3 recovered well and two, showed persistent poor scholastic performance even after one year.

Conclusion : A terrorist attack, not only results in physical scars but also causes psychological trauma, which requires emotional support and needs to be followed up on a long term basis.

MJAFI 2005; 61 : 330-332

Key Words : Terrorism, Trauma, Children, Gunshot injuries, Acute Stress Reaction.

Introduction

Terrorism is defined as an act of violence, against unsuspecting people and countries, by a person or group that believe their cause is more important than human life or property. Trauma can change the way children view their world[1]. Child trauma is a medical, social and psychological problem, worsened further by disability. Trauma is the second biggest killer of children between the ages of 0-14 years and it accounts for 50% of all the deaths. Children's reactions will depend upon the severity of the trauma, personality, and availability of support. It is common for children to regress behaviourally and academically following trauma. Prompt and accurate assessment of injury, and early initiation of critical care is important to prevent death [2]. We share our experience of the terrorist attack on an Army Camp where a large number of children were injured due to firearm bursts by terrorists at close range in the family quarters.

Material and Methods

A terrorist attack in the Northern Sector occurred where 23 persons were killed and 48 severely injured. Of the total, 26 were of paediatric age. Of these, 10 children succumbed to injuries on the spot and were brought in dead. 16 were brought in a critical condition. These children were managed on the principles of Advanced Trauma Life Support (ATLS). The

concept includes first saving the life of the victim and then identifying the other injuries that result in persistent morbidity. All the cases were operated within 12 hrs of hospitalization. All the victims and their parents were subjected to psychiatric evaluation once the child's physical condition had stabilized. Those requiring counseling were followed up in psychiatric OPD at a regular basis.

Results

Most were in the age group of 1-5 years, and were injured when the terrorists entered their houses and fired indiscriminately, while they were getting ready for school (Table 1). The youngest child was aged 2 months who succumbed to her injuries on the same day. She had bilateral pulmonary contusion with pneumohaemothorax as a result of fall from the mothers lap during the terrorist attack. Her chest injuries were managed by placing intercostals chest tube drainage. The diffuse parenchymatous injury to both the lungs was severe and she died within 4 hrs (Table 2). The female to male ratio was 16:10. The males predominantly had

Table 1

Age distribution

Age in years	No. of cases
0-1 year	2
1-5 years	6
5-10 years	4
10-15 years	2
15-18 years	2

*Cl Spl (Surg & Paed Surg), Army Hospital (R&R), Delhi Cantt, **Gd Spl (Psy), 166 Military Hospital, C/o 56 APO, +Sr Adv (Paed & Neo), Command Hospital (SC), Pune, ++Comdt, 166 Military Hospital C/o 56 APO, #DGMS (Navy), New Delhi.

Table 2**Morbidity and mortality pattern**

Total no of children	26
Killed at spot	10
Severely injured	16
Death in hospital	01

Table 3**Region wise distribution with outcome**

Region of the body	No. of cases*	Outcome
Head and neck	6	*All died at spot
Thorax	6	*3 died at spot 1 died in hospital
Abdomen	4	*1 died at spot
Upper limbs	7	All survived
Lower limbs	8	All survived

*The occurrence of multisystem trauma accounts for the percentage distribution of > 100%

injuries of lower limbs while the females suffered injuries of upper limbs, thorax and abdomen. The injuries of upper part were in majority fatal, killing 10 children on the spot (Table 3). All superficial uncontaminated wounds operated within six hours were primarily closed after wound debridement. The infected wounds were debrided and left open in 5 cases and a delayed primary closure was carried out. All cases with bony lesion or severe soft tissue injury were given POP support. The chest injuries were managed with intercostals chest tube drainage. Exploratory laparotomy with splenectomy was done in one case and repair of hollow viscus in another case. Ligation of popliteal vein in a case of gunshot wound of leg was done to control the profuse bleeding (Table 4). Evaluation of the injured children in the post operative phase revealed Acute Stress Reaction in 5 of the 16 children in the form of frequent crying spells, waking up at night, nightmares, regressive symptoms and reduced biodrives. Children who had lost their parents, relatives or friends were found to display of emotional and psychological reactions. 6 children were lost to follow up as they were sent away to their hometown due to bereavement in their family. Features of Acute Stress Reaction showed a gradual regression in the follow up period. 2 children showed a persistent reduction in school performance grades.

Discussion

It has been said that inadequate evaluation and inappropriate treatment contributes to approximately 30% of early deaths in children with severe trauma [3]. Head injury is the commonest cause of morbidity and mortality in paediatric age group due to relatively large head size, less neck control and plasticity of brain tissues. The presence of a significant extracranial injury doubles the morbidity and mortality of children with head trauma. In the child with severe traumatic injury, multisystem trauma is the rule because of the small body mass, to which when high energy is imparted, resulting in a greater force applied per unit body area. In our study none of the

Table 4**Operative treatment**

Procedure	No. of cases*
Wound debridement only	6
Wound debridement + Primary suturing	5
Delayed primary suturing	5
POP immobilization	5
Intercostal chest tube drainage	3
Exploratory laparotomy	2
Ligation of popliteal vein	1

*The occurrence of multisystem trauma accounts for the percentage distribution of > 100%.

children with multisystem injuries reached the hospital alive.

The World Health Organization (WHO) estimates that 40 million children aged below 15 years fall victim to violence each year. WHO defines violence to children as child maltreatment in all its forms i.e physical and/or emotional maltreatment, sexual molestation, abandon or neglect, commercial and other forms of exploitation, causing actual or potential harm to the health of the child, their survival, their development or their dignity in the context of a relation of responsibility, confidence or power [4].

There is wide range of emotional and psychological reactions that children may display following disaster [5,6]. Most children are likely to recover in a few weeks with social and family support. Other children, may develop Post Traumatic Stress Disorder (PTSD), depression or anxiety disorders. These children require active assistance of a mental – health counselor or psychologist [7]. In the above incident, three children with psychological problems were below five years and two were between five and fifteen years. In the first group the symptoms were generalized fearfulness, hyperarousal, startle reaction, regressive behaviour – bed wetting, nightmares and sleep disturbances. In the second group the symptoms were nightmares, startle reactions, separation anxiety, somatic complaints, regressive behaviour, school avoidance and feeling of guilt. The symptoms reduced over one month with reassurance. Three children less than five years were lost to follow up. The other two children who were followed over one year, were managed with reassurance and counseling. All symptoms subsided over 6-8 months, except for poor scholastic performance. There was Post Traumatic Stress Disorder seen in the present study. The possibility of poor scholastic performance in these cases prior to the incident could not be ruled out.

It is suggested that to manage such crisis situations the following measures be adopted; (a) Create a safe environment by placing the child in a familiar

environment with people that they feel close to. (b) Keep the child's routine as regular as possible (c) Provide children with reassurance and extra emotional support. Reassure the children that they are safe and that they would not be abandoned. (d) Be honest with children about what has happened. Provide accurate information, but make sure it is appropriate to their developmental level. (e) Be aware that children will often take on the anxiety of the adults around them. Parents must deal with their own emotional reactions before they can help children understand and label their feelings. (f) Try to put the attack in perspective. Although we ourselves may be anxious or scared, children need to know that the attack is a rare event [8,9]. In our study we counselled the children and their caretakers, on these aspects.

Advanced Trauma Life Support (ATLS) is based on the concept of saving the life of the victim by first managing imminent life threatening injuries and then identifying the other injuries that result in death or illness. ATLS has two phases: The primary survey, during which all life – threatening injuries are identified and treated and the secondary survey, in which other injuries that contribute significantly to illness and death are identified and treatment started. The mnemonic ABCDE describe the primary survey. It consists of (a) Maintenance of Airway with cervical spine stabilization (b) Control of Breathing and ventilation (c) Establishment of Circulation with hemorrhage control (d) Estimation of Disability (neurologic screening examination) (e) Exposure and environment – with larger surface area to body weight ratios, infants and children may have significant heat loss, particularly when undressed (appropriate) for complete examination. The secondary survey includes (i) Monitoring vital signs (ii) Thorough head-to-toe examination – every orifice is examined, the patient is log rolled, to fully evaluate the back and spinal column (iii) Detailed history and (iv) Laboratory and radiographic studies.

Mortality in injured children is associated with a Champion trauma score ≤ 13 , a GCS score ≤ 7 or a Paediatric Trauma Scale ≤ 4 [10]. The main cause of death is head injuries [11]. In case of a terrorist attack the important thing for the child, at whatever age, is to be able to express him or herself, and for the adult or

doctor to recognize the signs that warn, that the child is in need of help in order, to find an appropriate outlet for inner feelings. The wounds resulting from terrorist – associated stabbings or firearms blast represent severe and highly lethal injuries [12]. Prompt and accurate assessment of injury severity and management is important for favourable outcome. A long follow up of children's whose parents died in terrorist activities revealed that their psychopathology was of unresolved trauma [13].

References

1. Monsen RB. Children and terror. *J Pediatr Nurs* 2002;17:62-3.
2. Jandric S. Injury severity and functional outcome following Paediatric trauma in war conditions. *Pediatr Rehabil* 2001;4:169-75.
3. Furnival RA, Woodward GA, Schunk JE. Delayed diagnosis of injury in pediatric trauma. *Pediatrics* 1996;98:56-62.
4. Press releases WHO / AFRO dated 16 Sep 2002.
5. Hoven CW, Durate CS, Mandell DJ. Children's Mental Health After Disasters: The Impact of the World Trade Center Attack. *Curr Psychiatry Rep* 2003;5:101-7.
6. Pynoos R, Nader K. (1993). Issues in the treatment of Posttraumatic stress in children and adolescents. In J.P. Wilson & B. Rapheal (Eds), *International Handbook of Traumatic Stress syndromes*. New York : Plenum pp. 535-549.
7. Pfefferbaum B. The impact of the Oklahoma City bombing on children in the community. *Mil Med* 2001;166:49-50.
8. Pfefferbaum B, Pfefferbaum RL, Gurwitch RH, Nagumalli S, Brandt EN, Robertson MJ, Aceska A, Saste VS. Children's Response to Terrorism: A Critical Review of the Literature. *Curr Psychiatry Rep* 2003;5:95-100.
9. Hanze D. How to help children and adolescents deal with the threat of terrorism. *J Spec Pediatr Nurs* 2002;7:42-4.
10. Browne GJ, Cocks AJ, McCaskill ME. Current trends in the management of major paediatric trauma. *Emergency medicine* 2001;13:418-25.
11. Reichmann, M Aufmkolk, F. Neudeck, M. Bardenheuer, K.P Schmit Neuerburg, U. Obertacke. Comparison of multiple trauma in children and adults. *Der Unfallchirurg* 1998;101:919-27.
12. Hanoach J, Feigin E, Pikarsky A, Kugel C, Rivkind A. Stab wounds associated with terrorist activities in Israel. *JAMA* 1996; 276:388-90.
13. Dreman S, Cohen E. Children of victims of terrorism revisited: integrating individual and family treatment approaches. *Am J Orthopsychiatry* 1990;60:204-9.