

Original Research Paper

Serial Bomb Blasts in North-East India: A Postmortem Study

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Abstract

Terrorism has become a global phenomenon and most of the countries, whether developed or developing, are facing terror activities. Recently the terror activities have become a regular feature in India where more than 15 major terrorist strikes occurred from 2008 to 2010. Assam, the gateway of northeast India, on 30th October 2008 witnessed a strategically planned terrorist multiple consequential serial bomb blast attack where more than 13 bombs were exploded within a span of merely 10-20 minutes. The news on the next day indicated the initial death of 66 persons; and 470 sustained minor to severe injuries during the explosions in different places. Out of these ultimately 90 persons had died, which was the highest mortality in any blast in the Assam till that date. The dead bodies of 56 victims were brought to Gauhati Medical College and Hospital mortuary for postmortem examination. During autopsy apart from the demographic data collected on interaction with police, relatives of the victims and inquest papers of every victim, the postmortem findings were recorded in details and the difficulties faced in the management of this disaster in mortuary will be discussed in this paper.

Key Words: Bomb Blast, Injuries, Terrorist, Post-mortem

Introduction:

Terrorism has become a global phenomenon and most of the countries, are facing terror activities for one or the other reasons. The manmade disasters have the potential to rival the natural ones in enormity and the impact on human life. [1] Recently the terror activities have become a regular feature in India where more than 15 major terrorist strikes occurred from 2008 to 2010. The Assam, the gateway of northeast India, on 30th October 2008 witnessed a strategically planned terrorist multiple consequential serial bomb blast attack where more than 13 bombs were exploded within a span of merely 10-20 minutes that was marked as a "never before phenomenon", in its four adjoining districts viz Kamrup, Bongaigaon, Barpeta & Kokrajhar. There is no official data on exact composition of the improvised explosive devices used by the attackers. According to media reports these were executed by the persons involved with modern skills and materials like cyclotrimethylene trinitramine or royal demolition explosive (RDX), pentaerythritol tetranitrate (PETN) and trinitrotoluene (TNT).

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The dead bodies of 56 victims were brought to Gauhati Medical College and Hospital mortuary for postmortem examination. During autopsy apart from the demographic data collected on interaction with police, relatives of the victims and inquest papers of every victim, the postmortem findings were recorded in details and the difficulties faced in the management of this disaster in mortuary are being presented in this paper.

Observations and Results:

The table 1 depicts in sequence septet blasts; first occurred at 11.30 am at three sites and then at the interval of five minutes there was another explosion followed by three more blasts in different parts in a distance of 223km. Most of the victims were in their prime age of 21 to 40 years comprising of 75% of the victims. (Table 2)

Males were six times more commonly involved than the females. (Table 3) Out of the total victims, 36 were from Guwahati and 20 were from outside Guwahati. (Table 4) Victims of blast injuries were predominantly from business class. (Table 5) The thorax plus upper limbs were most commonly (51.79%) affected part of

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the body in this study and head was injured in 35.71% of the cases. (Table 6)

Maximum casualties were due to burns & haemorrhage and shock comprising of 3/4th followed by head injuries. (Table 7)

Table 1: Place, location and timings of bomb blast

Place and location	Date and Time	Distance from Dispur
Ganesh Guri (Guwahati)	30/10/2008 at 11.30 AM (Bomb was planted in car)	0KM
Pan Bazaar (Guwahati)	30/10/2008 at 11.30 AM	9KM
Krishna Nagar (Barpeta Road)	30/10/2008 at 11.30 AM	141KM
Pagalstan (Bongaigaon)	30/10/2008 at 11.35 AM	194KM
DC Court (Guwahati)	30/10/2008 at 11.40 AM (Bomb was planted in two wheeler)	10KM
Pooja Mandal (Kokrajhar)	30/10/2008 at 11.40 AM	223 KM
Fish Market (Kokrajhar)	30/10/2008 at 11.40 AM	223KM

Table 2: Age wise distribution of the victims

Age in years	No. Of cases	%age
0-10	2	3.57
11-20	4	7.14
21-30	20	35.71
31-40	22	39.29
>40	8	14.29
Total	56	100

Table 3: Sex wise distribution

Sex of the victims	No. Of cases	%age
Male	48	85.71
Female	8	14.29
Total	56	100

Table 4: Residential status of subjects

Locality of the victims	No. of cases	%age
Locals	36	64.29
Outsiders	20	35.71
Total	56	100

Table 5: Occupation wise apportionment

Occupation	No. of cases	%age
Govt. servants	7	12.5%
Private business	44	78.57%
Students	5	8.93%
Total	56	100

Table 6: Impact sites of blast over the body

Impacts	No. Of cases	%age
Head injuries	20	35.71
Face and neck	11	19.64
Thoracic and upper limbs	29	51.79
Abdomen	1	1.79

Table 7: Causes of Death in Blast Victim

Cause of death	No. Of cases	%age
Burns	25	44.64
Haemorrhage and shock	16	28.57
Head injury	14	25
Septicaemia	1	1.
Total	56	100

Map: showing relative positions of blast sites in Assam



The map of sites of blast shows that all are in a straight high way

Discussion:

A bomb is an explosive device made up of usually some kind of a container filled with explosive material; designed to cause destruction when set off. The explosion of the bomb has to be triggered, usually a clock, a remote control, or some kind of sensor, usually pressure (altitude), radar, or contact. The description and adaptation or preparations of an explosive is defined in section 4 (d) of Indian Explosive Act 1884. (2) Explosions can be atomic, mechanical and chemical. A bomb blast is a type of chemical explosion. Explosives are classified into low and high explosives. Primary high explosives like mercury fulminate and lead azide are too sensitive to be used in bulk and are ideal for detonators. Secondary high explosives are less sensitive and do not explode on handling. To produce an explosion they must be subjected to shock wave from other detonating explosive, usually supplied by a detonator or blasting cap. [2, 3, 4]

One of the places attacked in this study, Ganesh Guri, is the most bombed site (this was 19th time) in India. The bomb was planted in a car parked under the flyover. Similarly all other places which were targeted are among the most crowded placed.

Maximum numbers of cases were seen in the age group of 20-40 years as persons in this age group are mostly the bread earners of their family and go out for other household works too. In India, being a patriarchal society, most of the outdoor activities are performed by male. So, male were common victims in this attack.

Most of the people dying in the blast were from Guwahati but the city being business centre of Assam, people from other parts of the state were also commonly involved. As the attack targeted most crowded business centres the blasts victims were predominantly people engaged in their own business.

Closed space explosions cause an increase in mean injury severity scores, primary blast injury in admitted patients and overall mortality. [5] Patients injured in open spaces are more likely to suffer from penetrating injury and less likely to suffer from the effects of the blast wave compared with patients injured in semi confined spaces and buses. Victims in proximity to the epicentre of the blast are more severely injured than the victims farther away. The most severe types of thoracic injuries after terrorist attacks are caused by penetrating missiles. Abdominal organs such as liver, spleen and kidneys, which are partially protected by the rib cage, are less frequently injured. [8] Blast induced burns are present in up to 27% of the people injured by an explosion and is associated with immediate mortality and a high rate of coexisting primary blast injury. [5] In our study the most common part of the body injured was combined thorax and upper limbs. Burns was most common type of injury seen on dead bodies of the victims. Burn injuries were common in this attack as the bombs were planted in car or two wheeler in parking due to which the vehicles standing by the side caught fire. Bomb blasts with heavy casualties present an unusual circumstance in the mortuary. In present study there were hundreds of emotional relatives to identify the bodies and they wanted quick disposal of their cases.

Deficiency of police made it more difficult to control the crowd and it created a law and order situation. The staff in mortuary was not sufficient to deal with such a large number of cases and request for more paramedical staff & sweepers were sent to hospital administration immediately. District administration was asked to send executive magistrates and police personnel; to control the law & order situation, to conduct the inquest & other documentary formalities as early as possible. Whole staff was called on duty for faster disposal of cases. The prime objectives of the necropsies are identification, documentation of the injuries and reconstruction of the events. [7]

In present study, 49 bodies were identified by the relatives on the basis of facial features, clothes and personal belongings. Out of 7 charred bodies, 4 were identified the same day based on belongings and 1 was similarly identified next day. Last 2 bodies were claimed by more than 2 families for which samples for DNA analysis were sent to SFSL Kahilipara, (Guwahati) for identification.

Human intelligence is central in preventing such type of terrorist attacks. People are to be more vigilant and should inform the

police immediately if they notice any suspicious object or person. Law enforcement agencies should be strengthened for routine checkup of vehicles. Unlawful use of LPG cylinders for fuel should be severely punished. Parking laws should be properly enforced. Proper technologies like CCTV cameras should be installed in markets & crowded places to nab the culprits. Understanding the modus operandi of the terrorists by security agencies may help in nabbing the culprits and preventing terrorist attacks. [7]

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Fig.1: conglomeration of dead bodies inside the mortuary campus



Fig. 2: Body with stippling on right thigh garment region

