



Yale New Haven International Congress on Disaster Medicine and Emergency Management

Abstract Submission Form

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Abstract Text – Be sure to include Background/Objectives, Methods, Results and Conclusions

Background: On 2004 March-11, thirteen terrorist bomb explosions took place almost at the same time in four trains in an urban Madrid setting. Global data shows 191 dead people and more than 2000 injured, 233 of them severely. Lay people, many public-private organizations, prehospital EMS and fourteen ED hospitals were engaged in victims care. Three closest hospitals were overcrowded, even with severely wounded patients, most of them survived.

Objectives:

- * To present main facts and results of medical response to March-11 Madrid terrorist attacks.
- * To draw an evidence-based analysis draft model useful to conduct MCI evaluation.
- * To detect strong chain points to go on and weakness to solve for future plans.

Methods: MEBE team began to make a scientific approach, with special control of information sources and validity, collecting a multimedia database, even TV media victims and citizens testimonial interviews, most of them rich in technical data and plenty of humanity. Most information was contrasted, even by different means, specially official data, specially critical points. Personal interviews with more than 180 EMS workers and first-responders were performed. We emphasize on prehospital organization and medical care.

In order to find specific evaluation tools, after many searches conducted, our website expert panel suggested by consensus some items for research. All the interventions were assessed keeping in mind their medical weight in terms of mortality impact or severe risk. Many of these items were presented to more external experts for validation and discussion.

Results: We describe four simultaneous MCI from terrorist conventional bombings inside open-air (no tunnel) trains with no affectation of some other transportation media neither EMS nor hospital network capabilities.

From approximately 7:40 in the morning, 49 mICUs (physician + nurse + 2 EMTs), 22 fast-cars (physician + nurse + 1 EMT), 11 home medical cars (physician + 1 EMT) and 2 helicopters (physician + nurse + 1-2 EMTs) were dispatched to different focus.

From BLS network, 48 conveniated ambulances (SERMAS), 47 SAMUR, 32 Red-Cross, 20 Civil-Protection, 3 SAMER and N private vehicles were sent. More than 100 other vehicles for logistics and support medical services were also dispatched, many of them created in real time.

* Atocha MCI: 34 dead, 145 total victims, 6 deceased in place, 27 critical, 30 severe wounded. Two hours.

* Santa Eugenia MCI: 17 dead, 52 total victims, 14 critical, 6 severe wounded. One hour 15 minutes.

* El Pozo MCI: 67 dead, 56 total victims, 6 critical, 45 unknown. One hour 15 minutes.

* Téllez MCI: 64 dead, 83 total victims, 2 deceased in place, 7 critical, rest is confusing. Two hours 25 min.

Estimating 14-20 victims with vital signs deceased in place, both EMS recognized another 85-90 victims received ALS, and more than 650 patients were BLS evacuated. Approximately 233 ED red-labels were received in the first hours, most of them in the three closest hospitals (91+38+30 red labels). Then, ALS transport was 38.6 % and global transport 58.6 %. Some others considerations are presented.

Conclusions:

Main determinant weakness are the presence of two different EMS services with two different and independent coordination Centers. The simultaneous presence of four different MCI, one of them (Télez St.) confused with another one (Atocha) because of proximity. SUMMA deficient disaster planning and communications irregular failing, most attributed to infrastructural persistent limitations, were responsible in more than 40 % of patients lack of adequate hospital assignation. Second EMS did not recall critical specific bed, making a random assignment from the same MCI.

In the other hand, patients survival was favoured by an enormous citizen collaboration, Fire-Rescue, Police and public-private work. A satisfactory when possible Coordination Center conducted-effort, even in bed-hospital assignation, and an almost exhausting prehospital EMS and in-hospital work were vital.

Four-focus presence, lay-people moderate-massive evacuation, BLS units *scoop and run* and closest ED red-labels overcrowding were the most determinant factors in victims morbi-mortality.

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