The Role of Emergency Medical Services in Mass Casualties

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Introduction

Since the early 70s, special attention has been given by the French authorities to disaster management. Integration of prehospital critical care as a part of the rescue organization was then decided. Several mass casualties situations have been observed in France and in Paris. Disaster plans for prehospital care and hospital organization have been implemented, utilized, and modified according to the acquired lessons. Practice of disaster medicine was considered as mandatory for the physicians working in the French Emergency Medical Services, called SAMU, and was included in the basic training. The SAMU organization has been described in details elsewhere [1, 2]. In essence, SAMU is a nation-wide, regionalized public organization in charge of prehospital care. The SAMU includes a regional dispatching center and several Mobile Intensive Care Units based in major hospitals of the area. Physicians, specialized in anesthesiology or in emergency medicine, are directly involved in the patients’ treatment on scene and patients’ dispatching. In disaster situation, the SAMU plays an important role [3] and is closely associated with the Fire Brigade and the Police.

In this chapter, we will briefly review the principles of medical management of mass casualties in Paris and discuss the points of particular interest in terms of organization and specialized care.

The “White and Red Plans”

Medical management is not always essential, for example in natural disaster. However, man-made disasters may be the cause of mass casualties in urban settings. The aim of terrorism and especially of bombings is to create as many as possible innocent victims to strike the public opinion. In these particular settings, the problem is very different from any other circumstances. When terrorism aim the major town of developed countries, where the standard of emergency medical care is currently high, a sophisticated organization is needed to take advantage of the various existing facilities. Consequently in Paris, since the beginning of the 80s, after several mass casualties situations, the medical part of disaster management was emphasized. The SAMU medical
"White Plan" [3] has been developed and modified to work in direct association with the "Red Plan" of the Fire Brigade and the Police.

The aim of this plan is double. First, to provide immediately on scene an adequate management of the victims. Patients with life-threatening problems will be consequently stabilized before being transported to hospital facilities. Second, to facilitate the hospital admission of the patients: Care given on scene provide time to the hospitals to set their local mass casualties plan. Dispatching of victims to several facilities avoid the overcrowding of the nearest hospital.

In 1986, 166 victims (including 16 deaths) were managed according to the White Plan. In 1988–89, the plan was activated in 3 train accidents (200 victims, 50 deaths). Basically, the same plan was used in Paris recently to manage 150 victims (including 7 deaths) but several modifications had been made.

**Alert**

Emergency call describing a disaster situation is received, directly from the public (emergency call, free number 15) or from the headquarters of the Police, by the SAMU dispatching center and the Fire Brigade. Immediately, a first medical team is sent on scene. The physician of this team has for unique task to evaluate briefly the importance of the problem and approximately the number of people injured. This information is the basis of the adapted answer to the observed situation. Initial evaluation by physicians trained in disaster medicine is often accurate. In the recent Paris bombings, in every case, the initial evaluation performed by a senior SAMU physician was accurate. The number of the severely injured victims suspected at the first site was confirmed afterwards during the final debriefing of the event. It is only when this evaluation is correctly performed that the first physician on scene is allowed to take care of the most severely injured patients.

**Search and Rescue**

This initial task is basically reserved to EMT (Emergency Medical Technician) of the Fire Brigade. At this initial phase of the plan, medical management is frequently limited to Basic Life Support (BLS) [4] and rapid transport to the triage unit. However when the number of medical team on scene is sufficient, Advanced Life Support (ALS) may be provided by a physician very early on scene. This was possible during the recent terrorist bombings in Paris. Each severely injured patient has been cared for by the team of one of the MICU (mobile intensive care unit) sent on scene, including an anesthesiologist or a critical care specialist. In two cases, the bomb exploded in an underground train station, in one near the platform and in the second under a tunnel. Considering the difficult access of this location, medical equipment was transported to the scene using specially designed backpack.