REUE | Special Article

Emergency care: we were pioneers without knowing it!

Atención a las emergencias. Éramos pioneros sin saberlo

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Introduction

I joined the Spanish Red Cross in 1975, somewhat by chance. I was looking to get started in mountain sports when I learned that a youth organization called the Red Cross Youth (CRJ), part of the Spanish Red Cross (CRE), had a good mountain group.

I soon received a first aid course—then called "land-based first aid"—and in some way began to feel my vocation. In addition to the mountain outings, the activities carried out within CRJ included collaborating with what we might call the "adult branch" of the organization, dedicated to rescue and emergency services, which at the time had a paramilitary structure. It was organized into what were known then as Rescue Troop Brigades.[1] Each province had one brigade, composed of military personnel performing their mandatory military service, assigned by the military health service to the Red Cross, as well as "militarized" volunteers. The soldiers staffed the network of first-aid posts (PPAs) distributed mainly along highways during the week, while volunteers covered weekends. These PPAs were equipped with an ambulance and a treatment room, where emergency care was provided and responses to emergencies and accidents were carried out. The Red Cross also provided medical coverage for scheduled public events of all kinds, especially at football stadiums.

These were times when emergency telephone numbers did not exist, and mobile phones certainly did not. The Red Cross provided the public with the direct numbers of the province's various first-aid posts on items such as keychains or pocket calendars, expecting people to call the corresponding post—after the ordeal of finding a public phone. Calls were answered directly by the on-duty ambulance crew, who would self-activate if necessary.

Ambulances were highly heterogeneous and had hardly any immobilization or life-support equipment. Care essentially consisted of "load and run."

As mentioned, the Red Cross provided coverage at public events such as football matches or road races. CRJ members attended these services as "apprentices" alongside the Rescue Troop Brigades, and in this way I began participating in my first scheduled services as a volunteer first aider. The most frequent were football matches at the major stadiums in Madrid (Spain). Our medical equipment was extremely basic, essentially a stretcher with poles for evacuating injured players from the field and a flexible canvas device used to evacuate spectators from the stands—in an era when, for example, the Santiago Bernabéu stadium held 110,000 standing spectators.

I recall my first ambulance shift in the summer of 1975, at 16 years of age, at the Brunete first-aid post. This post operated only on weekends and consisted of a caravan (Roulotte) towed by the service ambulance. We were on duty from early morning until nightfall. One day, a motorcyclist who had suffered an accident resulting in a rib contusion came in, and we transported him to the Central Hospital of the Red Cross. I remember as if it were yesterday the excitement of the transport, the sound of the siren, and how important I felt holding an oxygen mask to the patient's face—a mask reused consecutively for all patients—connected by a rubber tube to an oxygen cylinder with no flowmeter.

Meanwhile, I had started my nursing studies at *Universidad Complutense de Madrid* (Madrid, Spain).

Soon I also began volunteering from the CRJ mountain group in the Special Alpine Unit of the First Rescue Troop Brigade.[2] This unit was responsible for rescuing injured individuals at the mountain and ski stations of the Sierra de Guadarrama (Madrid, Spain). During the winter, services were provided at the Navacerrada, Cotos (now gone), and Valdesquí ski stations, as well as in La Pedriza de Manzanares. Search and rescue were also performed in collaboration with a small Civil Guard unit permanently stationed at the Navacerrada pass. It was there that I carried out my first mountain rescues as an assistant to members of the Special Alpine Unit, of which I became a formal member in 1977 at

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Figure 1. The author at the Peñalara lagoon during a patrol with the Red Cross Alpine Unit (CRE), 1978.

18 years of age, after passing a climbing exam and completing ski training.

The Red Cross Alpine Unit was a highly prestigious group where, as early as 1977, very innovative techniques for the time were used to stabilize trauma patients before transport. These included venous cannulation, medication administration, vacuum mattresses, cervical collars, and splints. I clearly remember the almost ritual administration of dexamethasone and mannitol for traumatic brain injuries. Morphine chloride and metamizole were used frequently as analgesics, as well as some now-questioned volume expanders. We quickly learned that these expanders froze at 4 °C, so we had to carry them inside our mountain jackets to prevent this, administering them under pressure from inside our clothing.

I remember that one of the first complex rescues I participated in took place at a location known as the North Gully of Cabezas de Hierro, a steep slope on the northern face of one of the highest peaks in the Sierra de Guadarrama. In winter, the area accumulates large amounts of ice, making it dangerous and difficult to access. During a long weekend in November, three people fell there, and all three died. That day, I was on duty in Cotos, close to the accident site. The first snowfalls of the season had already arrived, although the weather that day was unusually mild for the time of year. We received the alert and responded immediately. When we reached the site, all we could do was confirm that the three individuals had died. Night fell quickly, and with it came a sharp drop in temperature. Our equipment for both mountaineering and personal protection—clothing, food, water—was extremely limited, and we were only able to recover one body with great difficulty. It happened to be a moonless night, and we had no lights; carrying the body, we got lost in the vast pine forests of El Paular. The next day, once daylight allowed us to orient ourselves and locate our vehicles, we ate, equipped ourselves properly, and recovered the remaining 2 bodies. This rescue left a deep impression on me, as it was the first time I had seen a dead body.

In the summer, we worked extensively in La Pedriza de Manzanares, which at that time was a very popular climbing area, especially on weekends. The technical climbing gear used in those days was very rudimentary, and accidents were extremely common. On some occasions, the

Figure 2. The author with CRE volunteers on duty at the CRE Madrid base, Bravo 95, 1988.

climber did not fall to the ground but was left suspended on a rock face, requiring rescue, descent, and stabilization on the wall. Afterwards, the patient had to be carried on foot to the ambulance—helicopters were neither available nor expected—which sometimes took many hours.

There were essentially two rescue methods. One was a mountain stretcher called the Barnaud frame, basically a metal cross-shaped structure from which a canvas was literally suspended and lowered down the wall with ropes. For transport on foot, horn-shaped extensions were attached to the front and back of the stretcher and rested on the rescuers' shoulders. A device called a cacolet, a sort of backpack-like seat, was also used to carry the injured person on the rescuer's back.

Thus, we often had to climb above the injured climber and, using ropes, lower both the Barnaud stretcher and the primary rescuer who attempted to provide first aid directly on the rock face. Once on the ground, the patient was stabilized to the extent possible—analgesia, volume expansion, medication, immobilization—and then carried on foot in the stretcher to the ambulance. I recall complicated ice rescues on Peñalara, and rock rescues on El Yelmo, the Pared de Santillana, El Hueso, El Pájaro, La Maliciosa…

In addition, many members of the general public visited La Pedriza in summer to bathe in the Manzanares River, resulting in countless incidents—from viper bites to severe lacerations of the feet.

During my third year of nursing school, I was offered the opportunity to join what was called the daily service of the Alpine Unit during the winter season at the ski resorts of Guadarrama. The team consisted of two nursing students, both alpine rescuers, working with a very basic ambulance (a Citroën C8 Break). Our tasks included attending ski accidents on the slopes, evacuating victims using ski stretchers, and providing care at the first-aid post (suturing, plaster casts, analgesia). As an anecdote, my colleague and I worked seven days a week from December through April, lived in a hostel at the Navacerrada pass, were always on call, and were practically the only medical presence in the area. We studied from notes

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Figure 3. CRE alpine rescuer emblem, worn on the right sleeve of the uniform.

and completed our clinical practice hours at night. I did this for two winters—during my third year and again after graduating.

At that time, ski equipment was very primitive: bindings and boots were far inferior to today's standards, and skis were attached to the skier's ankle with straps. Spiral tibial fractures were common, as were deep cuts caused by the metal edges of skis when a skier fell—especially to the head (helmets were not used) and the legs. Very frequent injuries also included shoulder dislocations, tears of the medial collateral ligament of the knee, and fractures of the thumb, due to ski poles attached with flimsy straps. During the week, we also carried out mountain rescues with the Civil Guard and responded to traffic accidents in the Navacerrada pass and surrounding areas.

Another interesting experience I had—after obtaining my aquatic lifeguard certification—was collaborating with *Cruz Roja del Mar*[3] in Menorca (Spain) for 2 summers, working as a lifeguard and nurse on the beaches of Son Bou and Santo Tomás. Those were very formative times.

Another very enjoyable activity, after completing my military service with the military health corps in Granada (Spain), was joining the Provincial School of First Aid of the Red Cross in Madrid. This was highly prestigious at the time. I taught approximately 60 first aid courses of about 30 hours each in the most diverse settings. It was a rewarding teaching experience that opened the door to another one of my passions: education.

But perhaps the most interesting period was yet to come. In 1986, the "democratic transition" of the Red Cross began. The rescue and emergency services—then organized around the Rescue Troop Brigades and functioning exactly like a military barracks, with flag rooms, officers' mess, disciplinary arrest, and guard formations for the commanding officers—were reorganized from a paramilitary structure into a civilian one called rescue groups, a process in which I had the opportunity to participate. Those were tense times within the organization, as the paramilitary command structure was understandably reluctant to disappear.

The person tasked with dismantling that structure was Juan Carlos Medina—at that time not only a young medical captain of the Brigade but also a founder of SEMES (Spanish Society for Emergency Medicine). He received the assignment from the first president of the Madrid Red Cross of the new era. For a while, we coexisted amid a certain tension while sharing operational duties. I recall, for example, working under those conditions during the 1987 Arias Department Store fire in Madrid, where eleven firefighters died, as well as providing very limited and rudimentary coverage at major planned events such as the Madrid Marathon.

I joined the new rescue groups as part of the leadership team. Among other tasks, we were responsible for transforming the communications center, which became the Provincial Coordination Center (CPC)[4] as part of an ambitious communications plan from the national headquarters of the Red Cross. Madrid's center was the second in Spain. Through this plan, radio frequencies were organized, communications systems—until then extremely precarious—were standardized, and, in a completely revolutionary step, a single Red Cross telephone number for the entire country was implemented: 22 22 22.

The center coordinated the Red Cross ambulances of the Madrid region and was staffed on weekdays by military personnel and on weekends by volunteers. A volunteer weekly coordinator was on call with a pager and worked in person on weekends. I was part of that group of coordinators.

I also accepted the responsibility of serving as procurement officer for medical supplies for the Madrid Regional Assembly of the Red Cross—the so-called regional pharmacy. I was tasked with updating, standardizing, and harmonizing the equipment in both ambulances and first-aid posts throughout the Community of Madrid. At that time, Red Cross ambulances were highly variable, basically station wagons with little or no medical equipment. We standardized and modernized the supplies for both the first-aid posts and the ambulances, introducing advanced life-support (ALS) and basic life-support (BLS) kits, as well as immobilization and transport equipment such as scoop stretchers, spine boards, cervical collars, vacuum mattresses, and more. We were allocated a budget of 30 million pesetas—a considerable sum at the time. In addition, we benefited from a national ambulance standardization program promoted by the central office and partially funded

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by Banco Bilbao Vizcaya (BBV), known as the National Ambulance Plan.[9] This allowed the acquisition of hundreds of well-designed ambulance vans—arguably among the first truly medicalized ambulances in Spain. Thanks to funding from the Central Office and partial support from BBV, the National Ambulance Plan[9] enabled the acquisition of hundreds of well-designed ambulance vans—arguably among the first truly medicalized ambulances in Spain.

With the help of two Red Cross servicemen, Óscar and Javier, we created a centralized procurement office. The Central Hospital of the Spanish Red Cross gave us access to its suppliers at very low prices, and we "sold" equipment to the various local assemblies. As a curious anecdote, we inventoried, inspected, and standardized the entire stock of oxygen cylinders in the Community of Madrid—none of which had ever been serviced or retested. Many were still being used without a flowmeter.

To conclude this period of my time with the Red Cross, I had the honor and privilege of serving as a volunteer nurse in what was probably the first sustained medical helicopter pilot program in Spain.[5-7] Established through an agreement between the Red Cross and the Directorate-General for Traffic (DGT), the medical helicopter began operations in the summer of 1988 and continued until January 1990, when it was incorporated into daily operations by the then-new 061 service. During the pilot phase, the helicopter operated only on weekends—Friday afternoons, Saturdays, Sundays, and public holidays. The aircraft, an Ecureuil 350, was provided by the DGT, while the medical equipment and crew were supplied by the Red Cross. Its medicalization was, by today's standards, quite rudimentary. The helicopter carried both Red Cross and Civil Guard communication systems, and its crew consisted of a DGT pilot, a Red Cross physician, and a Red Cross nurse. The right-front and right-rear seats were removed to install a fixed stretcher base on which a scoop stretcher was placed. The helicopter was based at the Cuatro Vientos Airport (Madrid, Spain) and was dispatched by both the Red Cross and the Civil Guard to all types of major incidents, especially road traffic collisions and mountain rescues. I flew every Saturday on extremely busy shifts, often completing five or six complex missions. A very striking detail from that era is that GPS did not yet exist, and navigation aids were limited, so flights had to be conducted visually—following roads and using prominent buildings as reference points.

Figure 4. The author on duty in the medical helicopter during the pilot program between the Directorate-General for Traffic and the Spanish Red Cross. Cuatro Vientos Airfield, 1989.

Parallel to my volunteer work, I developed my professional career in various hospitals of the Madrid public health network, particularly the Central Hospital of the Red Cross, where I also completed my midwifery specialization in 1982. In 1987, after passing the civil service examination, I joined the Madrid City Council as a nurse.

When, in the summer of 1990, we began the journey and challenge of designing and launching SAMUR, the project required such a high level of commitment that I had to end my volunteer service with the Red Cross. Those were 15 exciting years during which I learned much of what I know today about emergency care.

I remember with great affection how we all became part of the newly founded SEMES. At its congresses we began to understand that the volunteer work we carried out in the Red Cross was, in fact, true emergency medical care. There we became captivated—"infected," in a sense—by a group of visionary individuals who advocated for the development of emergency medical services in Spain. Among them were Emilio Moreno Millán, Enrique Hormaechea, Pepe Millá, Ignacio Sánchez Nicolay, Antonio Hernando, Narciso Perales, Santiago Ferrandiz, Vicente Chuliá, and Carlos Álvarez Leyva. They spoke English, they had traveled, they had read, and they knew what was happening around the world. They understood the evolution of emergency services in the United States, France, Germany… They shared their knowledge with passion at the conferences and forums held in the late 1980s, and without a doubt, they instilled in our young hearts the calling toward emergency medicine. It is fair to say that we were inspired by the very best within SEMES. Many of us later contributed to the design and implementation of emergency medical services in Spain—and we did so standing on the shoulders of giants.[9]

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