The Golden Hour: Fact or Fiction?

This whole idea of the so-called “Golden Hour” has always bothered me a little. As a resident, I remember seeing trauma patients rushed to the emergency department by EMS only to lie around for several hours while the surgeons operated on others. Even while staffing a large urban trauma center, I noted that it was uncommon for more than one or two operating rooms to be available during the evening and night hours. I wondered, if EMS has the “Platinum Ten Minutes” and the emergency department has the “Golden Hour,” what do the hospitals and surgeons have? “The Silver Day” or “The Bronze Week”?

I remember when I took my first American College of Surgeons Advanced Trauma Life Support Course in 1989, the instructors talked about the trimodal distribution of death following trauma, but kind of joked about the Golden Hour. They implied that it was designed to encourage “ambulance drivers” to get patients to the hospital rapidly so the “real care” could begin. Later, sitting around a table with some emergency medicine physicians, the concept of the Golden Hour came up. I learned from a doctor who trained at the University of Maryland that the whole idea of the Golden Hour was supposedly drafted on a cocktail napkin over drinks in a Baltimore bar.

Today, the concept of the Golden Hour has evolved into a fundamental tenet of EMS. The concept of the Golden Hour justifies much of the current EMS and trauma system, not just in this country, but around the world. It is the theoretical basis for such concepts as “load and go” (or “scoop and run,” depending which part of the country you are from). It also forms the fundamental basis for acromedcal transport and trauma center designation. Numerous federal and state grants have been provided to determine how best to deliver patients to trauma centers within the golden hour. All of the EMS textbooks, including my own, stress the concept of the Golden Hour. We speak and write of it with authority, assuming that it is scientific fact.

It seems intuitive that the sooner trauma patients are delivered to definitive care, the better their chances of survival. But this is not what is at question here. What is not clear is whether the patient must arrive within an hour. Could it be two hours? Could it be 30 minutes? E. Brooke Lerner, EMT-P, and Ronald M. Moscati, MD, with the Department of Emergency Medicine at the State University of New York, Buffalo, decided to look at the medical literature behind the concept of the Golden Hour. In their landmark paper, The Golden Hour: Scientific Fact or Medical Urban Legend?, published in the July 2001 issue of Academic Emergency Medicine, they performed an exhaustive search of the medical literature supporting the concept of the Golden Hour. They were able to trace the idea back to famed trauma surgeon R Adams Cowley, MD, founder of the Shock Trauma Center at the University of Maryland in Baltimore. Dr. Cowley died in 1991, but his writings and documents are archived at the University of Utah. In reviewing the literature, including Dr. Cowley’s writings and archives, Lerner and Moscati were unable to find a single scientific article that either supported or refuted the concept of the Golden Hour. In fact, many of the articles that discussed the Golden Hour actually referenced other articles where there was no mention of the Golden Hour whatsoever. They summarized, “The intuitive nature of the concept and the presence of those who originally expressed it resulted in its widespread application and acceptance. Despite the lack of definitive scientific evidence, numerous research studies and requests for funding are based on achieving the Golden Hour for trauma patients and take for granted that time always matters.”

It is not for me to determine whether the Golden Hour actually exists. Certainly the concept of rapidly getting the patient to the hospital following trauma makes a lot of sense. But, are we risking the lives of EMS personnel in speeding ground ambulances and aeromedical helicopters as they strive to get the trauma patient to a hospital within the Golden Hour when it may not actually exist? Do they risk their lives only to have the patient lie around the emergency department for a prolonged period of time waiting for a surgical team or for an operating suite to become available?

It is incumbent upon us all in emergency medicine and EMS to determine what prehospital time interval is most appropriate. It may be an hour. But, whatever it is, it should be supported by sound, scientific evidence. With a shrinking healthcare dollar, we must be able to prove that everything we do is scientifically and ethically sound. The Golden Hour may not be.

Bibliography

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