

The First Administration of Anesthesia in Military Surgery: On Occasion of the Mexican-American War

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Previous publications have reported the initial wartime use of anesthesia for surgery as occurring in either the Crimean or German-Danish conflicts after 1848. The authors have determined that this first-time use took place in the spring of 1847 during the Mexican-American war and under the direction of American military surgeon Edward H. Barton. His experiences with ether, and those of fellow surgeon John B. Porter, are described. (Key words: Anesthetics, volatile; diethyl ether. History: diethyl ether; military medicine.)

AS WILLIAM MORTON demonstrated the anesthetic properties of sulfuric ether to Warren, Bigelow, and others at the Massachusetts General Hospital on October 16, 1846, the American Armed Forces were engaged in a controversial war with Mexico.

Around the middle of October, the Occupation Army of the United States, as it was called, had crossed the Rio Bravo (Grande), taken Monterrey, and were approaching the city of Saltillo. Since the news of Morton's discovery spread rapidly, abroad¹ and within the United States,² ether was used quickly to alleviate the pain of the wounded undergoing surgical operations in the field hospitals of the country where it first was discovered. Thus, the previous reports of first application of anesthesia in the Crimean war³ or in the German-Danish war⁴ may be considered subsequent to its use in the war between Mexico and the United States. Moreover, since chloroform was the agent utilized in the two former conflicts, occurring in 1848 or later, we believe that proper credit should be given to those who first applied the new medical modality and described their observations, as well as the rather unusual circumstances surrounding their experiences.

The first use of anesthesia in wartime was made in the spring of 1847 under the direction of Edward H. Barton, surgeon of the 3rd Dragoons, Cavalry Brigade, Twigg's Division⁵ (fig. 1). Barton, who graduated from the Medical Department of the University of Pennsylvania around 1820, had already made a name for himself in the United States as the proponent of then-controversial ideas concerning sanitation, yellow fever, and the uses of general bleeding, strong emetics, and calomel.⁶ Barton served as Professor of Materia Medica at the Medical College of Louisiana in New Orleans from October 1834 until 1842.⁷ In the latter year, because of his wife's poor health, Barton resigned his post and moved with her to the West Indies.⁸

Barton's move toward the use of ether in the Mexican-American War began with his letter to Thomas Lawson, U. S. Surgeon General, on December 16, 1846. In that communication Barton, who expressed familiarity with Warren's October 16 application of ether, urged Lawson to use that agent for relief of surgical pain in wounded soldiers.⁹

By the spring of 1847, at the request of President James Polk, Barton was in Mexico serving with Twigg's Division. A correspondent of the *Vera Cruz American Eagle* described the initial combat use of anesthesia (occurring in late March or early April) as follows:

"A German teamster belonging to one of our trains . . . had both of his legs horribly shattered by the accidental discharge of a musket, which had been carelessly loaded. He had been conveyed to the church of San Francisco, which is now occupied by us as a hospital, and after some days it was discovered that it would be necessary to amputate both his legs, so badly had they been shattered. On Friday last one was taken off, but it was found impracticable to proceed with the other immediately, and it was therefore deferred until next day, Saturday. In the meantime, Dr. Barton, a physician and surgeon of great reputation, arrived from the United States, via Havana, bringing with him an apparatus for the administering of the new and wonderful discovery in medicine, called the letheon, and was used by him prior to the operation, in presence of, and assisted by, Drs. Harney, Potter (sic) and Laub, with the most triumphant success. The unfortunate man was soon rendered completely insensible to all pain, and indeed, to everything else, and the limb was removed without the quiver of a muscle.

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FIG. 1. Dr. Edward H. Barton, who first used anesthesia in military surgery.

"The above operation was the first in which the letheon has ever been used in this country. Dr. Barton comes out to the army by special appointment of the President, and, we under-

stand, will remain at this post, upon which we congratulate the unfortunate and diseased, as he brings a reputation for great skill and experience, which being added to our already excellent medical department, will make it worthy of great confidence."⁹

The surgeon referred to as "Potter" among Barton's assistants is probably John B. Porter, who during the next few months would gain considerable experience in the use of ether.

Perhaps the most extensive description of the medical aspects of the Mexican-American war was written by Porter, who was born in Connecticut in 1804 and was an 1829 graduate of Berkshire Medical College, Pittsfield, Massachusetts. Porter's military career began in December 1833 with his appointment as Assistant Surgeon.¹⁰ He was thus a patriotic man with ample experience in the treatment of wounds, having been assigned to the American invading forces from the time they assembled at various points in Texas around October 1845, was present for the first encounter at Corpus Christi, and followed them in most of the battles. Thereafter, he went on to care for the disabled and recuperating soldiers as they were gathered in New Orleans, Louisiana, until they were ready to be sent home.¹¹⁻¹⁵

He pointed out that the Army provided sulfuric ether, sometime in the spring of 1847, to the forces that had landed in Vera Cruz§ on March 25th, under the command of General Winfield Scott¹² (fig. 2). On an unspecified day of the summer,

"An amputation of the thigh was performed, the patient having been put under the influence of ether, in which the hemorrhage was almost uncontrollable. The blood spouted in all directions

§ Porter's own spelling of Veracruz.

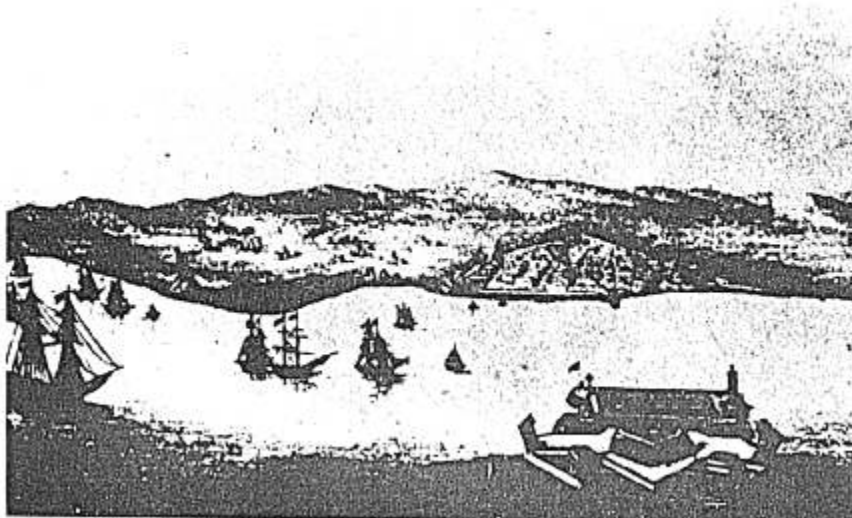


FIG. 2. Lithograph of the bombardment of the port of Veracruz by American warships, surrounding the Fort of San Juan de Ulua. Reproduced from Fernandez del Castillo F: Cuando y por quien se aplico por primera vez en Mexico la anestesia por inhalacion? *Gaceta Médica de México* 78:265-278, 1948, with permission of the publisher.

and I have never seen an operation where it was necessary to secure so many bleeding vessels”;

moreover, he remarks that,

“it was necessary to use cold water freely to suppress the general oozing of blood. At the time, I imputed the obstinate hemorrhage to the pernicious influence of the ether. In gunshot wounds, anesthetic agents are almost universally unnecessary, and are almost universally injurious. It was for this reason that they were entirely given up in the hospital at Vera Cruz.”

On the Mexican side, the services of the most outstanding physicians in the country were volunteered. It is possible that Mexico's wounded soldiers might have received the benefits of anesthesia while under medical care. As shown in figure 3, Dr. Pedro Van der Linden, chief surgeon from the Mexican army, is seen being made prisoner while amputating the leg of a wounded soldier apparently asleep, perhaps under anesthesia.¹⁶ Occasionally, the physicians on both sides engaged in the actual fighting,¹⁷ but more often they were kept busy, first attending their own compatriots, then the wounded enemy. An unconfirmed account recalled that in Veracruz, when the injured Americans were having limbs amputated, they received ether, yet while the Mexicans were cared for, “the band was ordered to play, so that the lamentations could not be heard.”** The rule, rather than the exception, was gallant and noble gestures displayed by physicians on both sides, as described by Porter,¹¹⁻¹⁵ Fernandez del Castillo,¹⁶ and Bandera.¹⁷

As far as the first anesthetic given by a civilian Mexican physician, RoaBarcenás¹⁸ attributed it to Jose Pablo Martinez de Rio, who first administered ether sometime in 1848, and, later, chloroform when it arrived from London the following year.¹⁹ However, there is some evidence that Jose Matilde Sansores first administered ether on June 15, 1847, in Merida, Yucatan. Both claims most likely were made unknown to each other.²⁰

At any rate, the fact is established that the first anesthetic applied in an armed conflict occurred at Veracruz, Mexico, sometime in the spring of 1847, using ether by American medical corps, directed by surgeon Edwin H. Barton to an accidentally injured teamster in General Winfield Scott's command.¹⁴ Porter's later bad experiences might have been due to the fact he probably did not know that ether vaporization occurs more readily at warmer temperatures and that wounded soldiers, having experienced fright, pain, and hemorrhage, would respond differently to the anesthetic. Nor was he aware that in the presence of a low cardiac



FIG. 3. Copy from daguerrotype of the moment when Dr. Pedro Van der Linden, chief surgeon of the Mexican Army, was made prisoner. He was performing an amputation on a wounded soldier apparently asleep; whether he was under anesthesia or not is not specified. Battle of Cerro Gordo (April 18, 1847). Reproduced from Fernandez del Castillo F: Cuando y por quien se aplico por primera vez en Mexico la anestesia por inhalacion? *Gaceta Médica de México* 78:265-278, 1948, with permission of the publisher.

output, the uptake of anesthetics is proportionally greater.

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¹⁷ *Daily American Star* (Mexico), September 1847 to February 1848.

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