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*Letter to the Editor*

# Emile Van Erps (1882–1955): a forgotten pioneer of epidural anesthesia

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## Abstract

**Four years before Dogliotti, Emile Van Erps published a study on epidural anesthesia that clearly inspired the Italian author.**

***Key words:*** **Epidural anesthesia, History, Van Erps, Dogliotti.**

Émile-Henri Van Erps was born in Brussels on January 18, 1882. He studied medicine at the Free University of Brussels (ULB), beginning in 1901 and graduating "cum laude" on July 8, 1907. In January 1931, he was appointed head of the general surgery department at the Infirmary Hospice. In June 1935, he became head of the gynecology department at Saint-Jean Hospital in Brussels, and later at Brugmann Hospital, where he remained until his retirement in October 1946. He died on May 1, 1955.

Van Erps mainly published in the Belgian medical press, particularly on spinal anesthesia for surgical and therapeutic indications. In 1927, he reported his experience with epidural anesthesia in the Journal de Chirurgie et Annales de la Société Belge de Chirurgie under the title « Essais sur l'anesthésie épidurale segmentaire »[1] . Using transsacral anesthesia at the S2 level, he achieved anesthesia for operations involving the entire pelvis (including childbirth) and, by adding a lumbar paravertebral supplement, even the lower limbs. However, he found this latter approach difficult, time-consuming, and very uncomfortable for the patient. He therefore sought to simplify the procedure by injecting the anesthetic solution into the epidural space at different levels of the spinal column. He does not appear to have been aware of the work of Théodore Tuffier (1857–1929) or Fidel Pagés (1886–1923)[2,3] . Van Erps named this technique "segmental epidural," a term later adopted by Achille Mario Dogliotti (1897–1966) in 1931.

Initially, Van Erps experimented on several cadavers of different ages, injecting 20 mL of an Indian ink solution into the epidural canal at the T6 level (and also at L2) with the body in the prone position. He observed diffusion of the dye over approximately 20 cm within the extradural space and along the nerve sheaths. In his clinical study, he meticulously described the technique, with the patient sitting or lying as for intrathecal anesthesia. After passing a short-beveled needle through the interspinous ligament, he advanced it until it comes to a stop against the ligamentum flavum, which was then carefully pierced. A slight "give" indicated entry into the epidural space. The needle was advanced 1–2 mm further. Before injecting, he ensured that the needle was not in the subdural space by checking for the absence of fluid reflux and by performing Athanase Sicard's (1872–1929) test—rapid injection of 1 mL of anesthetic or saline, which would immediately reflux if intrathecal. He then injected 10 mL of 2 % scurocaine[5] . The needle was withdrawn and the procedure repeated at the lower end of the intended anesthetized area.

The results were modest: only 56 % of 43 procedures achieved effective anesthesia. Van Erps concluded, *"The technique is difficult and inconvenient, with often unreliable results. One must be experienced in this type of anesthesia, which nevertheless remains interesting and may well have a bright future. I would like to continue with this method and improve it if possible."*

The limited success can be explained by the double-puncture approach at both ends of the target area, producing a broader but less intense block. Indeed, he noted that muscle contractility was preserved and patients could move their lower limbs.

Four years later, Dogliotti published his landmark article on epidural anesthesia[4]. It is the only article where he quoted Van Erps, but minimized his work. Yet he repeated the anatomical study with colored liquid injection, added a radiological investigation, used the same loss-of-resistance technique (*"l'ago appena avvertito questo scatto"*), and even adopted the same term, "segmental anesthesia." The key difference was that Dogliotti performed a single injection at the center of the area to be anesthetized.

Little known in Europe, Van Erps appears to have found greater recognition in South America[6,7], where he was acknowledged alongside Dogliotti: *"Among those who have developed epidural anesthesia, with improved and safe techniques, are Dogliotti, Giordanengo, Gutierrez, and Van Erps"*[7].

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The authors declare no conflicts of interest.

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