

PERINATAL LESSONS FROM THE PAST

Dr Carl Credé (1819–1892) and the prevention of ophthalmia neonatorum

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Carl Siegmund Franz Credé was born in Berlin on 23 December 1819.¹ His parents were French, his father holding a senior position in the Ministry of Health and Education. After attending the Friedrich-Wilhelm Gymnasium, Credé studied medicine at the University of Berlin, although he also spent a few months in Heidelberg where Naegele was Professor of Obstetrics. After graduating in 1841 at the age of 22, he visited clinics in Belgium, Paris, Vienna, and Italy, before returning to Berlin to become assistant to Von Busch, the Professor of Obstetrics. Five years later in 1849 Credé was appointed lecturer in obstetrics. His ability as a teacher was soon apparent and in 1852 he was made director of the Berlin School of Midwives and Chief Physician to the Charité Hospital (fig 1). There he was the first in continental Europe to establish a separate department of gynaecology. It was at this time too that he described in 1854 the method for delivering the placenta that is still known by his name.²

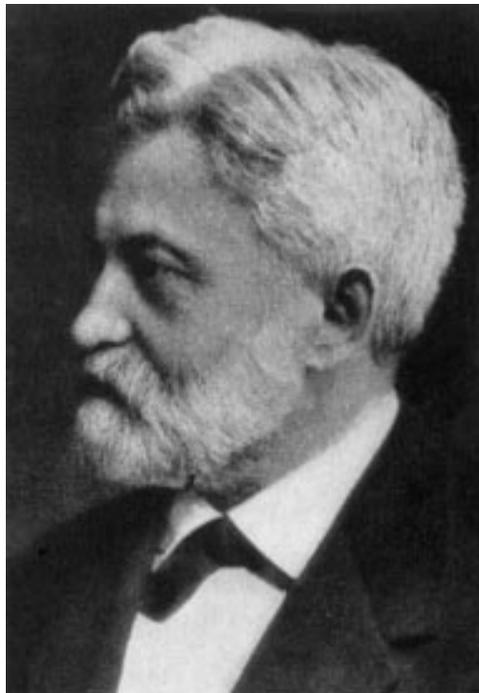


Figure 1 Carl Siegmund Franz Credé (1819–1892).

Credé's method of expressing the placenta³

“Failing natural discharge of the placenta . . . in numerous cases, without exception, successful expulsion of the placenta has been obtained within a quarter or half an hour after the birth of the child, by massage through the abdominal wall around the fundus and body of the uterus - gently at first and gradually increasing in pressure, thus producing an artificially stimulated powerful contraction. When this is at its height I grasped the uterus so that the head lay in the palm of the hand and the fingers and thumb lay along the sides of the organ, exerting a gentle and outward pressure. In each case I felt the placenta slide out of the uterus from under my fingers with such an impetus that it was carried through to the very external genitals; or at least to the lowest parts of the vagina.”

In 1856 Credé was invited to fill the chair of obstetrics in Leipzig, made vacant by the death of Jörg. There he remained for the rest of his professional life. His contributions were many. Not only was he an excellent teacher and administrator, but was also editor of the *Archiv für Gynakologie* for 39 years. In addition he published a number of books including the two volume *Klinische Vorträge über Geburtshilfe* (1854), the *Lehrbuch de Hebammenkunst* (1875), and the *Gesunde und Kranke Wöchnerinnen* (1886).

Credé was the first to introduce the cephalotribe into Germany. He also introduced into his nurseries in the 1860s a double walled cradle (the space between the walls could be filled with warm water). This open Warmwanne, which he subsequently described in 1884,⁴ was similar to that developed by Von Ruehl in 1835, and antedated by some 20 years the introduction of the first closed incubator or couveuse by Tarnier in 1880. Undoubtedly though, Credé's most important clinical contribution was in the prevention of ophthalmia neonatorum.⁵ As he wrote: “. . . almost without exception, the affected infants in my institution became infected only through direct transfer of the vaginal discharge into their eyes during the act of birth.” This fact had indeed been known for at least half a century. Likewise the

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instillation of nitrate of silver into the infected eye had been used in the treatment of ophthalmia as early as the 1830s. Credé's great contribution was in the use of these eye drops to prevent the infection.

In 1872 Noeggerath had published his famous account of gonorrhoea in women. It then came to be appreciated how often the disease remained latent and undiagnosed. At that time (1874) the incidence of ophthalmia neonatorum in Credé's own maternity hospital was 13.6%. It was the principal cause of blindness in infancy, being responsible for perhaps a quarter of all cases of lost eyesight throughout the world. In 1879 Albert Neisser identified the responsible organism, and two years later Credé published his prophylactic management.

On the prevention of ophthalmia neonatorum⁵

"After the ligature and division of the umbilical cord we first removed from the children in the usual manner the sebaceous matter and the blood, mucus, etc., which clung to them; then they were brought to the bath and there, by means of a clean piece of cloth or better, by means of a clean Bruns' wadding for dressing not with the bath-water but with other clean, ordinary water, their eyes were cleansed on the outside; that is, all the sebaceous matter clinging to the eye-lids was removed. Then on the table where the child is swathed before clothes are put on the child, each eye is opened by means of two fingers, a single drop of a 2 per cent solution of silver nitrate hanging on a little glass rod is brought close to the cornea until it touches it, and is dropped on the middle of it. There is no further care given to the eyes. Especially in the next twenty-four to thirty-six hours, in case a slight reddening or swelling of the lids

with secretion of mucus should follow, the instillation should not be repeated."

Credé left no doubt in the minds of his readers on any point of technique. The glass rod, for example, was 15 cm long, 3 mm thick, and smooth and rounded at both ends. The solution, which had to be renewed every six weeks, was kept in a bottle of dark glass with a glass stopper; the neck of the bottle was 1 cm in diameter. Credé was also unequivocal about the relative unimportance of methods of swabbing the vagina before the child was delivered.

"Rinsing of the female genitalia is performed for the sake of cleanliness, but it can also be omitted, because it has no influence on the treatment of the infection, even if sterilized water or antiseptic solutions are chosen."

Credé trained all his midwives and students to use his method which soon gained wide acceptance. The incidence of ophthalmia among the first 1160 infants treated by him was 0.15%. He felt able to write: "A goal long striven for has been attained. Now all infants born in lying-in hospitals are sure to be protected . . . this prophylactic measure cannot fail to blaze a trail . . ." Indeed countless cases of blindness were averted in the decades that followed.

Poor health caused Credé to retire in 1887. His illness from prostatic cancer was long and painful and he died on 14 March 1892. He was 73 years old.

- 1 Speert H. *Essays in eponymy. Obstetric and gynaecologic milestones*. New York: Macmillan Co, 1958:612–18.
- 2 Graham H. *Eternal eve*. London: W Heinemann Medical Books, 1950:552–5.
- 3 Credé CSE. Handgriff zur Entfernung der Placenta. *Klinische Vorträge über Geburtshilfe* 1854;2:599–603.
- 4 Credé CSF. Ueber Erwärmungsgeräte für frühgeborene und schwächliche Kleine Kinder. *Archiv für Gynaekologie* 1884;24:128–47.
- 5 Credé CSE. Die Verhütung der Augenentzündung der Neugeborenen. *Archiv für Gynaekologie* 1881;17:50–3.