



DR. IGNAZ SEMMELWEIS (1818-1865): THE SAVIOR OF MOTHERS

Gynecology

Dr Vijayalakshmi Chandrasekhar*

MD,DGO,MBA(Hosp Admin) Associate Professor (Obstetrics and Gynecology) GITAM Institute of Medical Sciences and Research ushikonda, Visakhapatnam-530045, Andhra Pradesh, India *Corresponding Author

Dr Chandrasekhar Krishnamurti

MD Associate Professor (Anesthesiology) NRI Institute of Medical Sciences, Sangivalasa, Bheemli, Visakhapatnam -531162, A.P., India

ABSTRACT

Infectious disease has been a leading cause of death in humans since the first recorded tabulations. Major pandemics of bubonic and pneumonic plague, cholera, smallpox, measles, tuberculosis, syphilis, gonorrhoea and influenza have devastated the human population. In the immediately post natal period, the placental site is a large open wound - easily invaded by ascending bacteria. That puerperal women were at risk of a fever that could be fatal was common knowledge. Puerperal sepsis (childbed fever) was known since 1500 BC but it was the Hungarian obstetrician Ignaz Semmelweis who discovered its cause and first took preventive measures against the spread of this serious infection.

KEYWORDS

Puerperal sepsis, Semmelweis, medical history

"My doctrine is produced in order to banish the terror from lying-in hospitals, to preserve the wife to the husband, and the mother to the child" Dr Ignaz Semmelweis, (1861)

INTRODUCTION

Evidence for the presence of sepsis in humans stretches into antiquity. The Hippocratic writings contains references to childbed fever. Greek physician Soranus and Hindu texts dating back to 1500 BC had advice on hygiene for birth attendants. The 17th century saw the establishment of "lying-in" hospitals throughout Europe. These relieved obstructed labour with forceps or intrauterine manipulation. These interventions entailed frequent vaginal examinations, the use of contaminated instruments, dressings and bed linen. Ward overcrowding was also present, leading to the first recorded epidemic of puerperal fever the Hôtel Dieu in Paris in 1646. Subsequently, maternity hospitals all over Europe and North America reported intermittent outbreaks, epidemics and high mortality figures from puerperal sepsis. (1) It was Anthony van Leeuwenhoek (1632–1723), with no scientific background or medical training, who built his own compound microscope and detected "animacules" in 1674, shaped like spheres, rods and spirals (cocci, bacilli and spirochetes!)

LIFE HISTORY OF DR. IGNAZ SEMMELWEIS (1818-1865)

Professor Ignaz Semmelweis (1818–1865), a native of Hungary, was the first to develop a modern view about sepsis. (Fig 1,2)



Fig. 1 Puerperal sepsis

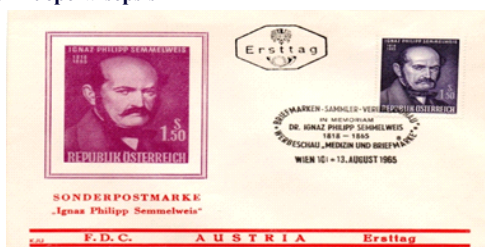


Fig.2 Dr Ignaz Philipp Semmelweis (1818-1865)

Semmelweis studied and worked at the Allgemeines Krankenhaus (AKH), first as a medical student from 1837 until April 1844, and later,

as an Assistant in Obstetrics to Professor Klein. During a 2-year contract in the First Obstetric Division of the Vienna Lying-In Hospital. Here, he observed that the death rate from childbed fever (syn. puerperal sepsis) was in the range of 18%. (2) At that point in time, male medical student's performed autopsies and, without hand washing, conducted deliveries later in the day. In the Second Division, where midwives or midwifery students exempt from autopsy duties, the maternal mortality rate was under 2%. Puerperal sepsis rates were also low among women who gave birth before arriving at the hospital. Taking note of unhygienic labour room practices like reusage of soiled bed linen and improper washing of hospital linen by unscrupulous laundry contractors, Semmelweis instituted a strict hand washing policy with chlorinated lime solution (chlorina liquida) before commencing ward work, and also before each vaginal examination. (Fig 3,4)



Fig.3 Handwashing in labour room with bleach solution



Fig 4. Proper handwash prior to examining pregnant women

This practice led to a significant drop in the incidence of puerperal sepsis. Noticing reluctance to his suggestions by his peers, Semmelweis remarked aloud that "Doctors are gentlemen, and gentlemen's hands are clean." This was taken amiss by his colleagues and they voiced their scepticism and ridiculed his unsolicited advice. Succumbing to their pressures, the management did not renew his contract. Without a job, a frustrated Semmelweis expressed his support for the republican forces who were attempting to overthrow the Hapsburg monarchy. This earned him political disfavor and, in 1850, when he presented his paper on preventing childbed fever at the meeting of the Medical Society of Vienna it was met with disapproval and not well received. Opponents to his methods included the famous pathologist Rudolph Virchow and a prominent obstetrician of the time, Friedrich Scanzoni. Semmelweis's application for reappointment was

denied, and a dejected Semmelweis left for Budapest on 15 October 1850. (3)

On 21 May 1851 he was appointed Honorary Senior Physician in the Obstetrics Division at St Rochus Hospital in Budapest, where he worked until July 1855. Thereafter, he was appointed Professor of Theoretical and Practical Midwifery at the University of Pest. In 1861, more than 15 years after his initial inferences, Semmelweis published his work "Aetiology, terminus and prophylaxis of puerperal fever" (Die Aetiologie, der Begriff und die Prophylaxis des Kindbettfiebers). This too was received with scorn, prompting Semmelweis to write a series of "open letters" to his former professors, accusing them of being "medical Neros". Dejected by his inability to gain professional eminence and the facing unrelenting opposition from the medical community to his proven theories, Semmelweis suffered a nervous breakdown. Mentally disturbed and suffering from severe depression, he was admitted to the ward for maniacs at the Lower Austrian Mental Home in Vienna where he succumbed on 13 Aug 1865, to a fulminant infection originating from a lacerated finger. Sepsis had claimed another life, that of its nemesis.

An early pioneer of antiseptic procedures, Dr Ignaz Semmelweis is described as the "saviour of mothers". (4) He was one of the great minds in the history of medicine, who identified the etiopathogenesis of puerperal sepsis and helped reduce maternal mortality from infections. The medical university of Budapest was named the Ignác Semmelweis in his honor and, on 01 Jan 2000, renamed the Semmelweis University, and having the greatest number of publications among the Hungarian universities.

REFERENCES

1. Tyler Smith, W. (1856), "Puerperal Fever", *The Lancet*, 68(2): 503–505
2. Semmelweis, Ignaz . *Etiology, Concept and Prophylaxis of Childbed Fever*.1861) Translated by Carter, K. Codell. Wisconsin Publications in the History of Science and Medicine, University of Wisconsin Press, Madison, Wisconsin.1983
3. Nuland SB. *The Doctors' Plague. Germs, Childbed Fever and the Strange Story of Ignaz Semmelweis*.New York: W. W. Norton and Co.; 2003.
4. Slaughter FG. *Immortal Magyar. Semmelweis, Conqueror of Childbed Fever*. New York: Henry Schuman; 1950.