Puerperal sepsis: what has changed since Semmelweis's time

In 1846 Ignac Philipp Semmelweis (1818–1865) was a young assistant in obstetrics at the Vienna General Hospital. At that time puerperal sepsis was known as childbed fever, an esoteric state caused by an impalpable illness-carrying vapour called miasma. Oddly, the ward run by doctors had a consistently higher mortality rate compared with the next-door ward, run by midwives. How could miasma distinguish between such proximal wards? It was only after he himself was infected (but of course this term had not been coined at that time) with a scalpel used for autopsies, that Semmelweis realised the fever was probably caused by some contagious 'particles' present in corpses. At the same time he recognised that he and other physicians were the direct cause of maternal deaths in their own ward. From that moment on, his career was dominated by the conviction, at times obsession, that hygiene was the key to preventing puerperal mortality. Through the simple measure of hand washing he reduced perinatal mortality in his clinic from 10% to 2% (Semmelweis, The aetiology, concept and prophylaxis of puerperal fever. Med Classics 1941;5:350). Unfortunately, during his life-time Semmelweis's colleagues remained critical of his work. It was only at the end of the nineteenth century that the medical community understood the importance of his discovery.

In 1923, Thomas Watts Eden (1863–1946) was a consultant obstetrician from Charing Cross Hospital in London. He estimated that the maternal mortality rate was 4: 1000 that year and that puerperal sepsis was responsible for 20–50% of all maternal deaths (Eden, Postgrad Med J 1925;1:9– 16). He can be considered the founder of the confidential enquiries into maternal death from the UK, the longest running audit on maternal mortality in the world. Today, this registry reports an overall maternal mortality of 1: 10 000. Only two generations ago, puerperal sepsis was a main cause of maternal death (Caldwell, The history of puerperal sepsis—corrigendum. J Obstet Gynaecol Br Emp 1951;58:926–9), a drastic fall in maternal mortality was observed after the introduction of Prontosil in 1936.

Overall, puerperal sepsis is still the leading cause of maternal death worldwide, accounting for 2.1% and 11.6% of maternal deaths in high- and low-income countries, respectively (Khan et al. Lancet 2006;367(9516):1066–74).

Alarmingly, an increase in maternal mortality was recently reported (McClure et al. Br J Anaesth 2011;107:127–32). It appears that, even if we know the causes of puerperal sepsis, we still have some difficulties in handling it. The massive use of antibiotics and the resistance developed by Group A streptococcus are probably the most urgent problems to face.

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ELENA CONTRO,
CONSULTANT IN OBSTETRICS, UNIVERSITY HOSPITAL OF BOLOGNA, ITALY

Eric Jauniaux, Professor, Institute for Women's Health
University College London
London, UK.