Pioneer of anaesthesia, epidemiology - and handwashing

This year marks the bicentenary of the birth in 1813 of Dr John Snow, whose work encompassed anaesthesia, epidemiology, general practice, physiology, chemistry and toxicology. 1 Born in York, he witnessed the early ravages of ‘King Cholera’ when it arrived in north east England in 1831 2 and he became convinced that insanitary conditions, particularly contaminated water, were responsible. The popular theory was that miasmas - smells and bad air from putrefying matter - caused cholera. It was the urgent problem of the age, prompting a deluge of regulations and the first Public Health Act in 1848. John Snow had meanwhile moved to continue his career in London. When ether anaesthesia was successfully demonstrated in Massachusetts in 1846, he witnessed one of its earliest demonstrations in England and devised apparatus to safely dispense ether and later chloroform. His skill led to a request to administer chloroform at the birth of Queen Victoria’s eighth child. In her diary, she referred to “blessed chloroform” and insisted on having Dr Snow attend for her next and final delivery, making it respectable to contest a prevailing religious view that women should have no pain relief at childbirth.

Snow’s detailed casebooks 3 indicate a busy medical practice, working almost daily except for a couple of weeks in 1854, when he focused again on cholera. He had investigated the water supply by rival companies in London in 1849, showing that water from more polluted sources was associated with more cholera deaths. A sudden outbreak of cholera in Soho during the hot summer of 1854 provided “the grand experiment” that he had sought: an epidemic whose speed and localisation suggested a single source. Snow demonstrated that faecally polluted pump water in Broad Street had caused the outbreak. Few physicians of the time agreed with his conclusion, which was proved much later in the century with the discovery of the bacteria that cause cholera and the establishment of the germ theory of infectious disease.

Less well known is Snow’s early identification of the importance of handwashing to prevent infectious disease transmission. In 1831 he postulated that cholera could be spread via the unwashed hands of miners or in those caring for the sick. In his seminal work on cholera 4, he further commented that there were no privies [toilets] in coal pits: “The pit is one huge privy and of course the men always take their victuals with unwashed hands.” The workforce included children and he observed that then, as now, “children get their hands into everything and are constantly putting their fingers in their mouths.” He was probably unaware of Ignaz Semmelweis’ now famous trial of handwashing in Vienna in 1847 and Snow had died before a lecture on this work was published in English in 1861, with a profound influence on British surgeons. But Snow should be ranked with the early “handwashing heroes” and might have pursued research into this area had he survived beyond his premature death in 1858.

Dr Snow has become an icon of public health and medical geography, which has attracted criticism that he was only one of many who contributed to these subjects. 4 Yet his span of interest and systematic approach were unique and predated confirmation of his research; he was not heralded as a hero during his lifetime. He was above all an example of ‘cometh the hour, cometh the man’ in being in the right place, at the right time, to produce compelling evidence on cholera and to establish principles of safe anaesthesia. The John Snow Society was established two decades ago as a much belated commemoration of his life and work and I am proud to have instigated the Society and to be one of its five founders. Now with nearly three thousand members worldwide, it is based at the Royal Society for Public Health, in partnership with the London School of Hygiene and Tropical Medicine, which hosts an annual ‘Pumphandle Lecture’ at which international speakers have shown how his work still inspires and informs modern epidemiology.

Recently a controversy about where Snow lived in Soho was solved in a joint investigation by an epidemiologist and an anaesthetist, 6 prompting the first ‘Blessed Pumphandle Lecture’ at a meeting of the History of Anaesthesia Society and a union between the interests of these diverse specialties of which Dr Snow surely would have approved.

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References