Paulus Aegineta (625–690 AD) and Bysantine medicine

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With the surrender of Rome to the invading barbarians from the north in the fifth century, the medical teachings of Hippocrates, Aristotle, Soranus, and Galen were preserved for posterity in the east by a series of Bysantine doctors. These included Oribasius (325–405 AD), Aetius of Amida (502–575 AD), who was physician to Justinian I, Moschion (6th century), and Paulus Aegineta, the last of the Greek masters.

Paulus was born on the island of Aegina in AD 625. Apart from the fact that he studied at Alexandria and travelled widely, little is known of his life. His fame rests on a great epitome of medicine in seven books written around 660 AD. To a great extent it is a compilation of the work of previous authors, and in particular that of Aetius. The work was translated by Francis Adams and published by the Sydenham Society in 1844.

Although Paulus admitted to being only a humble scribe of the work of others, he was, in fact, a capable surgeon. His work included original descriptions of lithotomy, trephining, tonsillotomy, paracentesis and amputation of the breast. He also gives a full account of eye surgery. Disorders of menstruation, embryotomy, manual removal of the placenta, and the use of the lithotomy position for abdominal surgery are all discussed. He is also recognised for his use of a conical bronze two-bladed vaginal speculum whose valves, after insertion, could be separated by means of a screw. The following extracts from his work illustrate his all round interest in medicine, surgery, obstetrics and paediatrics:

On difficult labour:

“Difficult labour arises either from the woman who bears the child, or from the child itself, or from the secundines, or from some external circumstances. From the woman in labour, either because she is gross and fat, or because her whole womb is small, or because she has no pains, or is affected with fear, or because the uterus or some other part is inflamed or otherwise diseased or because, from some natural weakness, she is unable to expel the foetus, or because the labour is premature. From the child, either because it is too large; or small, and of little weight; or from its having a hydrocephalus head; or from being a monster, such as having two heads; or because it is dead; or, although alive, because it is weak and unable to advance outwards; or because there happens to be several children, as Herophilus relates a case of five; or because the position is preternatural. For the natural position of the child is, first, when its head presents with the hands bent upon the thighs, and having its head directly applied to the mouth of the womb; and next to that, when it descends by the feet, and there is no turning aside. All the other positions except these are preternatural. Or from the secundines, either because the membranes cannot be torn, owing to their thickness; or because they have been torn prematurely, owing to their thinness; for when the waters are evacuated unseasonably, the foetus gets out with difficulty, from the dryness of the parts. From external circumstances, either from cold contracting or immoderate heat dissipating the powers, or from some accidental occurrence. Wherefore, if the difficulty of parturition arise from constriction, and, as it were, impaction of the foetus, we must first endeavour to produce

Figure 1. Marble engraving of a woman giving birth in ancient Greece.
relaxation by injecting frequently hot sweet-oil with the decoction of fenugreek, of mallows, of linseed, or with eggs, as a paregoric. Then we must apply cataplasms to the pubes, abdomen, and loins, of linseed, or of honied water, or of oil and water; and use hip-baths of a similar nature. We must also avail ourselves of the relaxation produced by baths, if neither fever nor any other cause prohibit; and the woman is to be moved on a couch in a moderately warm air. Some have had recourse to powerful shaking, and have applied sternutatories. If the woman be in low spirits, she is to be encouraged; and if she is inexperienced in labour, she is to be directed to keep in her breath strongly, and to press down to the flanks. If she be in a swoon, she is to be resuscitated by such strong-smelling things as are not stimulant; and when moderately recovered, she is to be supported with a little food. A woman that is fat is to be placed in bed in a prone position, bending her knees upon her thighs, in order that the womb, being carried to the abdomen, may present with its mouth direct. By means of the fingers the mouth is to be smeared with cerates or fatty substances, and gently dilated. And if there be any complaint in the parts, it must be previously attended to; and hardened faeces when retained must be expelled by an emollient clyster. The membranes may be divided either by the fingers, or by a scalpel concealed within them, the left hand directing it. And some of the fatty liquids may be thrown up into the uterus by a syringe. When the foetus is in a preternatural position, we may restore the natural position, by sometimes pressing it back, sometimes drawing it down, sometimes pushing it aside, and sometimes rectifying the whole. If a hand or foot protrude, we must not seize upon the limb and drag it down, for thereby it will be more wedged in, or may be dislocated, or fractured; but fixing the fingers about the shoulders or hip-joint of the foetus, the part that had protruded is to be restored to its proper position. If there be a wrong position of the whole foetus, attended with impaction, we must first push it upwards from the mouth of the womb, then lay hold of it, and direct it properly to the mouth of the uterus. If more than one child have descended, they are to be raised upwards again, and then brought downwards. Everything is to be done gently, and without pressure, the parts being smeared with oil. The time for placing the woman on the stool is when the mouth of the womb is open and meets the finger, and when rupture of the membranes is at hand (fig 1). If, owing to the death of the child, or any other cause, it do not advance, we must proceed to embryotomy.”

On choosing a wet-nurse:

“A nurse is to be chosen who is free from every complaint, and is neither very old nor very young. She ought not to be less than twenty-five nor more than thirty-five. Her chest should be large, as also her breasts, and her nipples neither contracted nor turned aside. The rest of her body should be neither very fat nor very spare. It is of great consequence to the child that his nurse should have brought forth but a short time before, and that her child had been a male rather than otherwise. She ought to avoid everything of a very desiccative nature, and likewise such as are saltish, acrid, sour, acid, bitter, very heating, or of an offensive smell: also, such as are strongly fragrant, condiments, and such like acrid substances. Let the nurse also abstain from venery. Let her work with her hands and shoulders, let her labour at the mill and the loom, and carry about the child in her arms. This may be done for three or four months.”

On tongue tie:

“The affection called ancyloglossus is sometimes congenital, the membrane which fastens the tongue being originally harder and more constricted than ordinary ... Those therefore who have this affection naturally are distinguished by being slow in beginning to speak, and by having the fraenum linguae larger than its moderate size ... Wherefore the patient is to be placed on a proper seat, the tongue raised to the roof of the mouth, and the membranous fraenum cut transversely ... taking care not to make deep incisions of the parts; for hemorrhages which have been found difficult to stop have thereby been occasioned.”

On imperforate anus:

“In new-born children the anus is sometimes found imperforate, being blocked up by a membrane. If possible, then, the membrane is to be ruptured with the finger, but if not, we must cut it with the point of a scalpel, and accomplish the cure with wine.”