

PERINATAL LESSONS FROM THE PAST

Avicenna (AD 980–1037) and Arabic perinatal medicine

Peter M Dunn

Ibu-e-Sina, or Avicenna as he is known in Europe, was the most famous in a series of Muslim physician-philosophers who preserved Greco-Roman knowledge and wisdom during the Dark Ages which followed the collapse of the Roman Empire. Having enriched it with their own observations and interpretations, they then made it available again five centuries later to Western Civilisation at the coming of the Renaissance.

Avicenna was born at Afshana near Bokhara in Persia in AD 980. His father was a high ranking civil servant and his mother a Tadjhik woman called Sitara. Avicenna was an infant prodigy who was able to recite the Koran from memory by the age of 10, and who, by the time he was appointed physician to the Amir of Bokhara at the age of 17, had not only learned many languages, including Greek, Latin, Moorish and Arabic, but had also mastered a wide range of disciplines, including mathematics, physics, metaphysics, astrology, geology, chemistry, alchemy, anatomy, physiology, pharmacology, toxicology and medicine, as well as philosophy, logic, and ethics. He must have been an insufferably cocky young man because at the age of 16 he wrote: "Next I desired to study medicine and proceeded to read all the books that had been written on the subject. Medicine is not a difficult science and naturally I excelled in it in a very short time so that qualified physicians began to read medicine with me." But his industry was phenomenal and his intellectual curiosity, tolerance, and imagination were such that he came to be regarded as one of the most profound thinkers of all time.

Besides being a physician and philosopher, Avicenna was also a great teacher, poet, and writer (fig 1). Unfortunately, only a few of his many treatises have survived. Perhaps the most important of these from a medical view point is his *Canon of Medicine*¹ which was regarded as the supreme authority throughout Christendom as well as Islam for some 600 years after his death. In this book Avicenna attempted systematically to co-ordinate all the teachings of Hippocrates, Galen, Soranus, Oribasius and other scholars with the biological concepts of Aristotle. If much of this work was based on the writings of others, including the great Arabic physician, Rhazes (AD 850–923), it offers a



Figure 1 Artist's impression of Avicenna.

clear synthesis of classical medical knowledge with that available from Byzantium, Persia, and India.

The *Canon* contains four chapters on the hygiene of newborn infants, including the diseases of infancy, of which the following is an extract:

"The regimen in infancy — the period from the moment of birth to the commencement of weaning: Many wise physicians state that when an infant of equable constitution is born, the umbilical cord should be severed four fingers' breadth from the umbilicus after it has been well but gently tied with a clean woollen ligature ... Then one should hasten to harden the surface of the skin by the use of slightly salted water until the cord has desiccated ... After this, the body should be bathed in tepid water, the nostrils thoroughly cleaned with the fingers, whole nails are cut short, and a little oil should be instilled into the eyes. The anal orifice should be caused to move by manipulation of its vicinity by means of the little finger, so it may open ... After the cord has separated — which should

Department of Child Health,
Bristol University,
Southmead Hospital,
Southmead,
Bristol BS10 5NB
P M Dunn

Correspondence to:
Professor Peter Dunn.

be in three or four days — the stump should be treated with a measure of bone ash or powdered lead oxide in wine.”

On binding the infants:

“In doing this the limbs must be handled very gently. Every part should be moulded according to its appropriate form ...”

On sleeping-quarters:

“The infant must be placed in an airy room, with not too cool air. The room should also be shady...”

On bathing the infant:

“In summer time it should be bathed with suave tepid water. In winter the water should be on the warm side ... it is desirable to wash it twice or three times in the day...”

On feeding the infant:

“Whenever possible, the mother’s milk should be given and by suckling. For that is the aliment of all others most like in substance to the nutrient material which the infant received while in the womb... It should suffice for the infant to suck the breast twice or thrice in the day at first, and it should not be allowed to take too much...”

Besides this there are two other things to be done to help strengthen the constitution: gentle (rocking) movements; humming music or some old song, or prattling to the infant, as is customary while placing the babe in its cradle ... the movement is for the benefit of the body, and the music is for the benefit of the mind.”

Inability to nurse the child:

“If there be anything to prevent the mother from giving milk to the babe ... a wet-nurse should be selected ... The infant is laid to sleep after feeding, but its cradle must not be rocked vigorously as otherwise one would churn the milk in its stomach. The rocking must be quite gentle. Duration of lactation: Normally this is two years ... weaning must not be abrupt.”

The reluctance of Arabic physicians to violate the social taboo against touching the genitalia of female strangers caused them to leave most obstetric practise to the midwives. Only the most seriously ill were seen by physicians. Among the contributions attributed to Avicenna is that of being the first to associate prolonged and difficult labour with fistula formation and urinary incontinence. He also appreciated the antiseptic properties of alcohol and discussed the use of obstetric forceps. For knowledge of the latter, we are indebted to William Smellie, who wrote in 1752²:

“With regard to the fillet and forceps, they have been alleged to be late inventions; yet we find Avicenna recommending the use of both. The forceps recommended by Avicenna is plainly intended to save the foetus; for he says, if it cannot be extracted by this instrument, the head must be opened, and the same method used which he described in his chapter on the delivery of dead children.”

On anaesthesia:

“If it is desirable to get a person unconscious quickly, without his being harmed, add sweet smelling moss to the wine, or lignum aloes. If it is desirable to procure a deeply unconscious state, so as to enable the pain to be borne which is involved in painful applications to a member, place darnel-water into the wine; or administer fumitory, opium, hyoscyamus (half-dram dose of each); nutmeg, crude aloes-wood (4 grains of each). Add this to the wine, and take as much as is necessary for the purpose. Or, boil black hyoscyamus in water, with mandragore bark, until it becomes red. Add this to the wine.”

On the causes of deformity:

“Some of these agents come into play from the beginning because of a defect in the formative power of the sperm. Others come into force later in life — namely in parturition, during the act of traversing the maternal passages. Others operate after birth (tight binders and wrappings). Others operate in infancy, before the limbs are hard enough to enable the infant to walk ...”

His advice on the management of the terminally ill patient still has relevance today in the handling of severely damaged or malformed newborn infants as well as in later life:

“Up to the last moment we should endeavour to soothe, but we must not gamble with a life by powerful remedies or big operations where there is no well-founded hope ...”

Avicenna spent all his life in Persia, moving first from Bokhara to Urjeush (modern Khiva), before moving on to Jorjan near the Caspian Sea, to Raj near Teheran, to Kazwin and finally to Hamadan. Besides his unusual vigour and ability to work hard, he was light hearted and pleasure loving, with a passion for wine and women. On his deathbed he paid his debts, gave his possessions to the poor, and freed his slaves. He was buried in Hamadan at the age of 57 in June, 1037. So died a man revered by his contemporaries who named him the Prince of Eastern Philosophers and Physicians.

1 Gruner OC. *A Treatise on the Canon of Medicine of Avicenna*. London: Luzac & Co, 1930.

2 McClintock AH. *Smellie’s Treatise on the Theory and Practice of Midwifery*. London: New Sydenham Society, 1876-78, Vol I: 77-78.