

HISTORY OF ONCOLOGY

Uterine cancer in the writings of Byzantine physicians

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Summary

Byzantine physicians recognized uterine cancer as a distinct disease and tried to suggest a therapeutic approach. The work of Oribasius, Aetius of Amida, Paul of Aegina, Cleopatra Metrodora and Theophanes Nonnus reflects the Hippocratic-Galenic scientific ideas as well as

their own concept on this malignancy. According to their writings uterine cancer was considered an incurable disease and its treatment was based mainly on palliative herbal drugs.

Key-words: byzantine period, medieval medicine, uterine neoplasm

Introduction

In 330 AD, Constantine the Great (272-337 AD) transferred the capital of the Roman Empire, from its historic base to Byzantium, an ancient Greek colony located on the European shore of the Bosphorus, and renamed it Constantinople after himself [1]. It was a highly political and historical gesture as Constantinople was located in a geographical crossroad and the newly formed Byzantine Empire had one feature that distinguished it from the late Roman Empire, Christianity. Christianity was not only the religion of the state but it was also incorporated in the mode of thought and dominated in sciences and life [2]. Ancient medical knowledge and Christian theology were connected in Byzantium as the person became their central objective and physical welfare equal to spiritual salvation. In that way the first hospitals were developed to provide medical care for the physically and mentally ill [2].

Byzantine physicians preserved the medical Greco-Roman heritage compiling and annotating medical texts, adding also their own innovations. Medical specialisations such as obstetrics, gynaecology and ophthalmology occupied an important

place in Byzantine medicine. Physicians excelled in pharmacology and medical botany and added new elements to the concept of uroscopy, influencing medicine for centuries to come [3].

Byzantine notions on uterine cancer were drawn from ancient Greek and Roman medical authorities. Uterine cancer was an incurable disease that arose from the imbalances of the four bodily humours and particularly the excess of the "black bile" and byzantine physicians pointed its palliative treatment.

Oribasius (ca. 325-403 AD)

Oribasius was born at Pergamus, in Asia Minor, about 325 AD. He studied medicine at Alexandria and practised in Constantinople (Figure 1). Oribasius was a close friend and personal physician of the pagan Emperor Julian the Apostate (c.331-363 AD), the nephew of Constantine the Great. However, after the death of Julian and the accession in the throne of Valentianus, Oriba-



Figure 1. Oribasius (ca. 325-403 AD) who identified tissue necrosis in uterine cancer.

sus was exiled [4]. According to his biographer Eunapius of Sardes (345-420 AD) "Oribasius was not without envious enemies...the emperors who followed Julian deprived him of his property and desired to take his life also but shrank from the deed" [5]. After a short period with Ostrogoths on the shores of the Black Sea, Oribasius was recalled to Constantinople and recovered his fortune with the consent of the later emperors [6].

Although Oribasius did not make original contribution in medicine, his books and mainly *Medical Collections* (Iatrikai Synagogai) are of great importance. They contain numerous extracts from earlier and contemporary medical writers, whose works could have perished forever, if Oribasius had not introduced them in his work [4].

The work of Oribasius contains few facts on uterine cancer. According to the German professor of Gynaecology, Eduard Caspar Jacob von Siebold (1801-1861), the major part of his work on Gynaecology and Obstetrics was probably lost. Oribasius, pointed the painful nature of the disease and mentioned its origin from polyps and fibroids. He also identified the tissue necrosis of uterine cancer. He believed that the affection was incurable and surgery could be fatal. For this reason, he ad-

vocated early diagnosis and surgical excision of all endometrial tumours. Therapeutically, he proposed the alleviation of the pain by using opium pessaries [7].

Aetius of Amida (ca. 502-575 AD)

Aetius was born in Amida, an ancient city located where modern Diyarbakir, Turkey, now stands. He studied Medicine at Alexandria and then he settled in Constantinople, where he was appointed physician to the Emperor Justinian (482-565 AD) and "Comes obsequii", or chief officer in attendance on the Emperor. Aetius is well known for writing an encyclopaedia the *Tetrabiblon* or *Libri medicinales*, in 16 books. It was actually a compilation from the treatises of earlier writers on Medicine and Surgery including also some original contributions [3].

The sixteenth book of Aetius work is considered the epitome of gynaecological knowledge of the Greco-Roman world and a chapter is devoted on cancer of the uterus. Aetius distinguished ulcerous from non ulcerous forms of cancer mentioning: "When there is no ulceration, the tumour found round the os uteri is hard and resistant to the touch, uneven, prominent, feculent in colour, red or livid; sharp pains are felt in the groins, belly, vulva, and loins, and these are increased by manual examination and by various medications. Should the cancer be an ulcerated one, in addition to pain, hardness, and swelling, we find ulcers spreading and irregular, and for the most part foul, prominent, and white in colour; some, however, appear feculent, livid, red and bloody" [8]. He also states that occasionally haemorrhage appear.

According to Aetius, uterine cancer is an incurable disease and he is against surgical removal as he believes that it could provoke fatal haemorrhage. He suggests various medicines to alleviate the pain and the haemorrhage such as baths of fenugreek and mallow, and cataplasms of a similar kind [6].

Paul of Aegina (ca. 625-690 AD)

Paul of Aegina was born in the island of Aegina around 625 AD (Figure 2). Little is known of his life except that he lived in Alexandria and remained in the city after the conquest by the Arabs [3].

His work, a medical encyclopedia in seven books, named *Medical Compendium* is not just a compilation of previous medical authors but also the viewpoint of a learned physician and a skillful



Figure 2. The eminent byzantine physician Paul of Aegina (ca. 625-690 AD).

surgeon [3].

According to Paul of Aegina, the best approach of uterine cancer was a conservative and palliative treatment. He mentioned that it was preferable to avoid the removal of the uterine cancer as there was a risk to grow worse. He recommended surgery only in cases of uterine abscesses that do not respond to medication [9].

Cleopatra Metrodora (ca. 7th century AD)

Cleopatra Metrodora, a highly educated woman physician, lived most probably around the seventh century AD, and according to some, was a contemporary of Soranus of Ephesus (98–138). Cleopatra Metrodora has been completely unknown and forgotten for many centuries. However, there is a manuscript in the Laurentian Library in Florence, Italy, dating back to the 12th century

which is attributed to Cleopatra Metrodora. It seems that she wrote a great number of works, among which a treatise on woman affections entitled: "On the Uterus, Abdomen and Kidneys" [10].

On uterine cancer, Cleopatra Metrodora sustained that it was a fatal and painful disease. Therapeutically, it is of interest that she proposed the surgical removal of the tumour mentioning that, in the same time, she could surgically reconstruct the vagina and the labia. Moreover, she was suggesting the application of tuber porridge mixed with goose fat, or a mixture of cinnamon, cob and ginger in a form of intravaginal pessary [11].

Theophanes Nonnus (ca. 10th century AD)

Theophanes Nonnus, originally Theophanes Chrysobalantes, was a Byzantine physician of whom very little is known. Upon the command of the Emperor Constantine Porphyrogenitus (905–959), Nonnus composed a synopsis in the form of an epitome of the medical art known as *Synopsis* or *Epitome* [3].

For the treatment of uterine cancer, Nonnus proposed ointments and intravaginal pessaries based on mixtures of honey, wax, eggs, fat, bone marrow of several animals and birds, sheep wool, sea sponge and oxymeli (Greek: a mixture of aged sweet wines, honey [Meli], raisins and fig extract) [12].

Conclusion

Prominent Byzantine physicians emerged during the Byzantine Empire compiling and refining the Hippocratic-Galenic scientific ideas. Their notions on uterine cancer are based on the knowledge acquired from their predecessors as well as from their own observations and clinical experience. Their work through translations and copying in monastic libraries survived middle ages and contributed to the foundation of our current concepts of disease.

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