

CANCER IN THE DAYS OF THE ANCIENT GREEKS.

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THE search for records of neoplasms in the medical and lay literature of the ancient Greeks is an interesting task, but it is somewhat unsatisfactory because it was not until after the beginning of the Christian era that tumors and cancers came to occupy a distinct and separate place in the medical mind, and the earlier descriptions are, with few exceptions, vague. Yet there are many records of chronic ulcers, spreading sores which even then received the name of phagedenic (eating), and more or less definite descriptions of single and multiple swellings, abscesses, et cetera, which almost certainly must have been new growths.

The Iliad and Odyssey stand at the head of the ancient Greek writings. Dating from about a thousand years before Christ, and carried down by oral transmission and the recitations of the Rhapsodists for many generations before they were committed to writing, even their authorship uncertain, being written—as an epigram puts it—"not by Homer but by another man of the same name", still they have many medical allusions. They naturally mention military surgery chiefly, and show a fair knowledge of the prognosis of wounds, the more dangerous parts of the body, the therapeutics of surgery, medicines to relieve pain and arrest hemorrhage, epidemics and pestilence, but contain not a single reference, so far as I have been able to find, to anything which can be construed as a tumor.

To Aesculapius, the more or less mythologic founder of medicine, are ascribed cures of everything in the medical index, including what must be understood as cancerous growths. The following lines are from the third Pythian Ode of Pindar, on Aesculapius:

Those whom Nature made to feel
Corroding ulcers gnaw the frame,
Or stones far-hurled, or glittering steel,
All to the great physician came;
Each deadly pang his skill controlled,
And found a balm for every grief.
On some the force of charmed strains he tried.
To some the medicated draught applied;
Some limbs he placed the amulets around;
Some from the trunk he cut and made the patient sound.

From the supposed time of Aesculapius occurs a gap of some three or four hundred years, when in Herodotus we find an account of Democedes, a physician of the sixth century before Christ, who became perhaps the first secretary to a board of health. After so serving in his native town, he was captured by the Persians and found his opportunity to enter history when he cured Darius of a sprained ankle—incidentally saving the lives of the Egyptian court physicians who were about to enter another realm for their failure to relieve the King—and crowned this achievement by curing (?) a chronic ulcer or abscess, a cancer perhaps, in the breast of Atossa, Darius' wife.

A little later we have an account of the tribulations of the lovely Aspasia of Phocaea, whose beauty was marred by a tumor on her chin. She consulted a physician who positively declined the case till she paid him three staters (about eleven dollars) on account, in advance; a wise stipulation apparently—for she was unrelieved till her patron goddess Venus appeared to her in a vision, in the form of a dove, when the tumor disappeared.

Dating from about the same time are the famous inscriptions on the pillars of the Aesculapian Temple at Epidaurus. Uncovered only a few years ago (1881), these inscriptions, written in the characters of the third century before Christ, but supposed to relate events of the fifth century before Christ, are nothing more than the forerunners of the most thrilling twentieth century testimonials and they might be used as models today. Among those possibly germane to this subject is an account of a man who had an old running ulcer of the toe; he slept in the temple and in a vision a serpent injected into his toe the first recorded dose of antitoxin, curing him at once. Another patient who suffered from an ulcer of the stomach, incubated, that is, slept in the temple, and in a vision heard the god order his attendants to seize and hold him; terror stricken he tried to flee, but was seized and bound to the door knocker; the god immediately opened his stomach, cut out the growth or ulcer, sewed him up and loosed his bonds. He rose up well in the morning but was horrified to see that the floor was covered with blood!

One more Epidaurian testimonial,—mentioning possibly the first recorded ovarian cyst or hydrosalpinx: a woman, Sostrata, had been apparently pregnant for a year; she slept in the temple but receiving no clear vision, started sorrowfully homeward; on the way her retinue met a strange man of most distinguished and dignified aspect; learning her trouble from her attendants he ordered her litter set down in the road, whereupon he proceeded to operate—letting out, as the record states, a "vast multitude of substance, filling several pans." He took no pay but told her to make her offerings at the temple at Epidaurus, and she went her way rejoicing.

These inscriptions, as Jones says in his "Malaria and Greek History," form "an amazing contrast to the clinical histories of Hippocrates. * * * Their chief characteristics are the rapidity of the cures

and their theurgic character. * * * Thus at the end of the fifth century, we find the Asclepieia being converted into health resorts as well as places of supernatural aid, while the supernatural itself is diluted with as much medical treatment as consisted with maintainance of the essential theurgic basis. * * * In short, therapeutics tend to revert to the ancient mixture of religion, magic and Empiricism."

The Greek Asclepieia were indeed sanatoria as well as shrines and though not properly within the scope of this paper, I cannot help referring to the antiquity of "modern" things, as shown in their treatments. For example, the priests of Epidaurus anticipated Father Kneipp by more than two thousand years, directing their patients to walk barefoot in the dewy grass in the early morning. Or, take the case of Marcus Julius Apellas, who came for treatment of many affections including indigestion and a swelling of the glands; the priests commenced his treatment by reasoning with him, urging him not to be so nervous about himself; ordered a diet of bread and curdled milk (anticipating the modern buttermilk treatment), and a salad of parsley and lettuce; prescribed lemonade and honey mixed with milk; ordered him to take much exercise, to rub himself in the bath though not to neglect paying the usual fee to the attendant who was supposed to do it for him; prescribed anise and oil for headache and when the patient protested that he had no headache, told him that he would have one before he was finished; ordered a gargle of cold water for the swollen glands; and finally he was directed to pay his fee and draw up a full account of his wonderful cure. Battle Creek in all her glory could not do more than such as these!

As for psychotherapy, witness the anointing, cleansing and many rites necessary before entering the temples, for the psychical effect on the patients, especially the neurasthenics. Euripedes, in "Iphigenia of Taurus", mentions this, as do also Aristophanes and Aristides. And those who are familiar with the precepts of Christian Science will be interested in the literal statement in a very ancient law that "sacred things can only be revealed to the elect and ought not to be confided to the profane until they are initiated into the mysteries of the Science", and also in another well worn axiom which has not yet lost its virtue, that when the patient died, as unfortunately he often did—and does,—the fatal event was due wholly to want of faith and obedience. So it goes, from the fervent prayers of patients, mentioned by Pliny, down through all the ages till we find in a popular seventeenth century jingle that

Tom Pots was but a serving man
And yet he was a doctor good;
He bound his kerchief on the wound
And with some kind words staunch'd the blood.

Coming now to Hippocrates who was born four hundred and sixty years before Christ, we find the first really scientific work in medicine. Galen, some five centuries later, in speaking of Thucydides,

says that he gives only those symptoms which would impress a common nonprofessional man, while Hippocrates describes the disease accurately but gives but few of the symptoms which have seemed most prominent to Thucydides. Concerning us at present are only his references to possible tumors. Among his famous Aphorisms are the following:

(IV-21) "Alvine dejections which are black, like blood, taking place spontaneously, either with or without frequent fever, are very bad." Can this be a reference to carcinoma of the stomach?

(V-63) "Women who have the uterus cold and dense, that is, compact and abnormally hard, do not conceive." May this not be a clear reference to fibroid uterus?

(VI-38) "It is better not to apply any treatment in cases of occult cancer; for if treated, patients die quickly; but if not they hold out for a long time." Adams in his work on Hippocrates comments on this aphorism as follows—"Ancient commentators say occult here means either 'not ulcerated' or 'deep seated.' The latter interpretation seems better, for then the passage means that the superficial growths can be cauterized or operated, the others being better left alone."

(VI-45) "When ulcers continue open for a year or more, there must necessarily be exfoliation of bone, and the cicatrices are hollow."

In the treatise on Airs, Waters and Places, in speaking of drinking foul or marshy waters, Hippocrates states: "Women are subject to oedema and leucophlegmaciæ (dropsy); when pregnant, they have difficult deliveries; * * * and further the women appear to be with child, and when the time of parturition arrives, the fulness of the belly disappears, and this happens from dropsy of the uterus." The older commentators take this to mean hydatids of the uterus; and several French and English writers mention the frequency of similar diseases in women who drink stagnant and marshy waters.

Hippocrates gives a curious and elaborate formula for malignant and chronic ulcers as follows: "Having pounded the white unripe grape in a mortar of red bronze, and passed it through the strainer, expose it to the sun during the day but remove it during the night that it may not suffer from the dew; rub it constantly during the day so that it may dry equally and may contract as much virtue as possible from the bronze: let it be exposed to the sun for so great a length of time as till it acquires the thickness of honey; then put it in a bronze pot with the fresh honey and sweet wine in which turpentine rosin has previously been boiled; * * * there should be the greatest proportion of the juice of the unripe grape, next of the wine and third of the honey and myrrh, either the liquid or otherwise; the finest kind is to be levigated and moistened by having a small quantity of the same wine poured upon it; and then the myrrh is to be boiled by itself, stirring it in the wine, and when it appears to have attained the proper degree of thickness it is to be poured into the juice of the unripe grape; the finest natron (the native carbonate of soda) is to be toasted and gently

added to the medicine along with a smaller quantity of the flowers of copper [This sometimes means either bronze or native copper, and was considered a most potent substance. It is supposed that it was prepared for use in such prescriptions as this by pouring cold water on melted copper, thus causing the copper to fly into small particles. (Geoffrey in "Adams' Paulus Aegineta").] When you have mixed these things, boil for not less than three days on a gentle fire made with the fuel of the fig tree or with coals lest it catch fire; the applications should all be free from moisture and the sore should not be wetted when this medicine is applied in the form of liniment."

In the treatise on hemorrhoids, after describing how hemorrhoids are formed, that they are due to engorged veins, et cetera, and giving several methods of cure, we find the following, which may refer to rectal polyps: "There may grow upon the bleeding condyloma a protuberance like the fruit of the mulberry and if the condyloma be far without, an envelope of flesh is adherent to it; having placed the man over two round stones upon his knees, examine—for you will find the parts near the anus between the buttocks, inflated and blood proceeding from within; if then the condyloma below the covering be of a soft nature, bring it away with the finger for there is no more difficulty in this than, in skinning a sheep, to pass the finger between the hide and flesh. And this should be accomplished without the patient's knowledge while he is kept in conversation." (!)

In Hippocrates' "Second Treatise on the Diseases of Women" is perhaps the most interesting description of this nature. The better commentators, however, are agreed that this treatise was not written by Hippocrates himself but by one of his immediate followers and pupils. Very freely translated and abbreviated, the description is as follows: "The abdomen becomes prominent, the mouth of the uterus being displaced, retracted and hard; there seems to be some connection between the abundant secretions of the uterus and the breasts, which enlarge and become pendulous. The women think they are pregnant until the seventh or eighth month and think also that milk is forming in the breasts. When their time is past, the breast becomes smaller, collapses, as does also the abdomen. When this has happened, the uterus contracts and the os cannot be found, the organ being dried and wrinkled. At this time there appear in the breasts hard knots, some large, some small, becoming harder and harder; these do not form pus but become deep-seated cancers. At this time the woman has a bitter taste in her mouth, her food is unpalatable, her understanding clouded, the eyes dry and the sight impaired; there are radiating and shooting pains up into her neck and around under the shoulder blades, beginning in the breast, with excessive thirst; the nipples become inconspicuous and dried up, the body emaciated, the nares dry and closed—not moving on respiration—and the breath is weak; the sense of smell is gone but the ears are not affected except that sometimes there may be some induration. When the disease has progressed to this point, the patient

cannot get well, but if seen earlier, she still has a chance." The writer then gives a most curious and elaborately detailed treatment for the earlier cases, commencing with the construction of a fire-pit into which a kettle is placed, the kettle containing herbs—garlic being important throughout the treatment—and being tightly sealed except for a small pipe through which the steam ascends. With this apparatus, the uterus is fumigated for many successive days, followed by dilation of the os by smooth sticks made of resinous pitchy wood, the use of various ointments, et cetera. The entire treatment covering many weeks is fully given—even to the carefully restricted diet and the number of baths required.

Following Hippocrates came a decadence and for three to four hundred years we find but few clear references to new growths in the maze of confused argumentative literature. Aristotle (384-322 B. C.), the great Greek philosopher and first comparative anatomist, wrote voluminously on medical lines but I can find but little reference to our purpose except an account of an indurated breast, a condition described many centuries later by Aëtius under the name *chondriasis*. During this period Greek medicine was divided into many clashing schools, and, incidentally, it may interest the graduates of the University of Michigan to know that one especially potent cause of strife was inflammation, some following one master, some another. Ninety years before Christ, inflammation was defined as "due to obstruction, either from the magnitude, the figure, the multitude or the rapid motion of the atoms," which is quite as intelligible as some of the modern definitions.

Approaching the Christian era, we find Herophilus and Erisistratus, eminent anatomists and surgeons, working in Alexandria under the Ptolemies, but Greeks by birth and training. They recognized and removed tumors and malignant ulcers. Antonius Musa, about fifty years before Christ, mentions malignant ulcers and states that they may be cured by applying the flesh of vipers. There are several references to the *aleiptai* or medical attendants at the baths who treated malignant ulcers, and Aristophanes in one of his comedies represents street peddlers—then as now—selling marvelous and infallible salves and lotions for a similar purpose.

A Greek remedy carried over to Roman medicine and described by Cato was cabbage, which was especially indicated in the eating sores of cancer; if a sinus or fistula presented, cabbage juice was injected through a syringe made by tying a bladder to a reed.

Archigenes and Heliodorus, Greek surgeons of the first century, introduced modern flap amputations and the efficient removal of gangrenous masses as well as tumors and chronic eating ulcers. They called attention to the Hippocratic error in making the incision through necrotic tissue only and anticipated modern surgery in widening their fields to include living flesh.

Paulus Aegineta, six hundred years later, the Osler of ancient medicine, collected medical practice into seven books. He is mentioned here only because many of his descriptions are taken directly from the early Greek writers. By this time the conception of new growths was far advanced, yet his distinction between clean ulcers of the uterus and malignant growths of that organ was taken from Aëtius of the fifth century, who in turn had it directly from the same Archigenes just mentioned. Cancer of the uterus is described as follows: "Some are attended with ulceration, some are not; if not ulcerated, a tumor (swelling) is found about the mouth of the womb, hard, unequal, callous, of a feculent color, and red, but sometimes also somewhat livid; and they have violent pains in the loins, which are exasperated by handling and complicated applications. When ulcerated, in addition to the pains, hardness, and swelling, there are phagedenic (eating) and unequal ulcers to be seen which for the most part are foul, callous, white, and having ugly scales upon them; but some appear clean, some feculent, or livid, or red and bloody. The discharge from them always is a thin ichor, watery, black or tawny, and fetid; but blood also is sometimes discharged along with the other symptoms. Wherefore the complaint is incurable, as Hippocrates says."

The later knowledge of all the Greek authors is summed up by Paulus Aegineta as follows: "Cancer occurs in every part of the body but is more particularly frequent in the breasts of women, for owing to their laxity they readily admit the thick humors which occasion it. For cancers are formed by black bile overheated, and if particularly acrid they are attended by ulceration. On this account they are darker than phlegmons without being attended by the same degree of heat. The veins are filled and stretched around like the feet of the animal called cancer (crab) and hence the disease has got its appellation. But some say that it is so called because it adheres to any part which it seizes upon in an obstinate manner like a crab. Owing to the thickness of the humor which occasions it, cancer is an incurable disease for it can neither be repelled nor discussed; not yielding to purgings of the whole body, resisting the milder applications and being exasperated by the stronger ones. It may be possible, however, to prevent incipient cancers from increasing by evacuating the melancholic humor before it becomes fixed in the part." Archigenes himself suggested a forerunner of some modern teaching by stating that logically cancer should be cured by applying the ashes of the river crab.

Finally, the sum of all our present knowledge in the treatment of this ghastly foe of womankind may be shortly expressed in but two of the aphorisms of Hippocrates, written some twenty-three hundred years ago: (I-VI) "For extreme diseases, extreme methods of cure;" and (VII-82) "Those diseases which medicine does not cure, iron (the knife[?]) cures; those which iron cannot cure, fire cures; and those which fire cannot cure are to be reckoned wholly incurable."

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