

Aboriginal American Medicine and Surgery

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The practices of curing and healing among the American Indians were so tightly bound with the mysticism of a shaman's chant that it sometimes comes as a surprise to find some of these aboriginal techniques were fore-runners of present-day medical methods. For our knowledge of aboriginal diseases and their treatment we are largely dependent on inadequate early historical accounts. While many of these diseases and surgical procedures are reflected by study of skeletal material, others leave no bony markings.

In the following remarks I have tried to gather available data and at the same time omit obviously magical methods of curing, although not with the intention of belittling the importance of their role. Indeed, psychosomatic medicine is of significance in any culture, and particularly in one where the supernatural causation of sickness is stressed.

Of all diseases known among the American Indians, probably the greatest bone of contention has been the origin of syphilis. Although entire books have been written on the subject, there is still much disagreement on the pre-Columbian history of the disease, some authors claiming to have demonstrated it among prehistoric skeletons, and other workers denying it. It seems certain that the disease was previously unknown in Europe or the Americas in the virulent form first reported a few years after the discovery of the New World. Possibly the Old and New Worlds each had a milder form of syphilis, that upon contact resulted in a more violent strain affecting European and Indian alike.

Prehistoric skeletal remains give silent proof of the relative commonness of various forms of arthritis. Hooton (8) has reported it in 13.12% of Pecos Indians, and according to Ashburn (2) chronic arthritis was present in about the same proportions before and after European contact.

Mastoid infections were fairly frequent among the prehistoric Americans, although mastoid abscess was rare.

McCurdy (10) has reported one cranial osteosarcoma from Peru and Ritchie and Warren (11) have described a case of multiple myeloma (a primary malignancy of the bone marrow), but demonstrable cancer seems to have been extremely rare among both the prehistoric and historic Indians. Cases of osteomyelitis and periostitis from the Maya area have been recorded by Corlett (3). Denninger (4) has described an osteitis fibrosa from an Illinois mound. This crippling degenerative disease, in which the bone is replaced by fibrous tissue, is due to parathyroid tumor. Osteomata (hard bone tumors) of the walls of the inner ear seem to have been fairly common among some Indian groups. These exostoses are thought by Adis-Castro and Neumann (1) to have

a hereditary basis and that the high incidence found in some cultures is a product of inbreeding in higher social strata.

The presence of deficiency disease among American Indians is recognized mainly through an abnormal porosity of the cranium known as symmetrical osteoporosis. This condition, due to loss of calcium, phosphorus, and vitamins C and D from the diet, is believed to be caused by extensive agriculture.

Heart disease has been considered by Gordon (6) as rare among American natives. While an apparently low incidence of heart disease may have been due to the aboriginal way of life, it may be because it was usually confused with other chest complaints and treated accordingly.

Ritchie (12) has recovered arteriosclerotic plaques from a prehistoric New York site, and Wakefield and Dellinger (13) have demonstrated them from Ozark Bluff Dwellers.

Minor gastro-intestinal disorders were very common among the aborigines, most often due to alternate fasting and gluttony. Natural remedies: emetics, carminatives, counter-irritants, purgatives, etc., were widely used. Ashburn (2) describes dysentery among the North American Indians and suggests that the bacillary type was indigenous and the amoebic form introduced to America from the Old World.

Respiratory infections were common among northern tribes, particularly those in the Great Lakes Area. Bronchitis, pleurisy, pneumonia, and tuberculosis were usually grouped together as a pain in the chest and treated accordingly. Although some authors question the pre-contact existence of tuberculosis, Ashburn (2) mentions Peruvian art showing spinal deformation and facial expression characteristic of tuberculosis of the bone, and Hooton (8) has recorded one Pecos skeleton he believed to represent Pott's disease. In the post-contact period pulmonary tuberculosis was one of the greatest scourges of the American Indian.

Diseases of the eyes and conjunctiva were relatively common, and many authors blame them on irritation by the dense smoke-filled atmosphere of aboriginal habitations.

Serious neurological disorders were comparatively rare, the mild forms of depression and hysteria being satisfactorily treated by the medicine man's performances.

On the basis of available descriptions, malaria was present in North, Central, and South America, although some authors have argued for the post-Columbian introduction of the disease from Africa.

The occurrence of yellow fever, typhoid fever, scarletina, and diphtheria before European contact is doubtful.

A number of parasitic skin diseases have been described from the tropical and semi-tropical areas of the western hemisphere.

Dental disease was almost universal among the American Indians in contradiction to the frequent references to perfect sets of teeth. 12-90% of prehistoric North Americans possessed one or more carious teeth according to Krogman (9). Among the Peruvian remains, however, there is a low incidence of caries, but a very high one of

pyorrhea. In addition to these ailments we find evidence of abnormal retention of deciduous milk teeth, supernumerary teeth, impactions, etc.

Perhaps the most sensational among primitive treatment methods is that of trephining or cutting into the skull and removing a piece. This operation was most frequently performed in accordance to the sound surgical principle of fracture decompression, although at times perhaps with a view to releasing evil spirits.

The practice of trephination centers in Bolivia and Peru where 5-6% of skulls show one to five openings. Freeman (5) has correlated this high incidence with the prevalence of slings and spiked clubs among the Peruvians.

The openings were made by sawing, cutting, scraping, drilling, and by combinations of these. In large openings plates of skull, gourd, or beaten silver were inserted to prevent herniation of the brain tissue. Most trephining was performed at the seat of the fracture, although some are at a distance and appear to be deliberate attempts at symptomatic relief.

The operation was apparently rarely fatal, many individuals survived for many years as evidenced by the amount of healed bone. Some of those showing no cause and no healing may actually represent a post-mortem practice session.

The setting of fractures was normally aided by splints of wood or bark, sometimes padded with wet clay or wrappings of rawhide. Through lack of, or faulty, manipulation, malpositioned repairs with extensive callus formation are common.

Amputations were occasionally performed and Peruvian pottery depicts employment of the skin-flap technique and subsequent use of artificial limbs. Removal of fingers was fairly common as a religious rite or tribal punishment, but therapeutic amputation seems to have been very rare.

In cases of foetal malposition midwives frequently attempted manual reversal, either internally or externally. Cortlett (3) cites an alleged custom among West Indies women, wherein they perform Caesarian sections on themselves in cases of difficult birth. These are supposed to be generally successful and may be repeated in successive pregnancies.

Bleeding or venesection was a widespread remedy for headache and fevers, aches and swellings. Although not without some merit this treatment was of largely magical basis.

Cupping and sucking in addition to its shamanistic applications in the case of "foreign bodies" was logically used for snakebite, and removal of pus from wounds and ulcers. Cupping with a buffalo horn followed by a counterirritant was employed for chest pain.

Sweat baths were utilized for the relief of arthritis, fatigue, and constipation in addition to their ritualistic and social usage.

Bandaging and strapping were employed in chest inflammations and to control hemorrhage. Laced corsets of bark were occasionally applied for spinal or abdominal ailments. Freeman (5) illustrates an

Inca bandage over an unsuccessful trephination, consisting of cotton covered with gauze and held in place by lashings of fine woven cord.

Heizer (7) shows the use of enemas to have been very widespread with applications varying from treatment for constipation, diarrhea and hemorrhoids, to the administration of wine by the Aztecs and of the narcotic "parica" by South American tribes.

Coca leaves were used by the Inca for anaesthetic purposes, although many tribes had to rely on tobacco and alcohol. Freeman (5) reports that hypnotism has been used for primitive surgeons.

Suturing was employed for wounds by many tribes. Sutures of human hair, vegetable fibers, and sinew were used. South American tribes employed a forerunner of the modern skin clips by allowing leaf-cutting ants to pinch the edges of a wound together, then twisting off their heads.

Some tribes irrigated puncture or complicated wounds, and others cauterized by means of fire coals, heated stones, or burning cotton. Among some groups wicks of twisted cloth or bark fibers were used as drains. Gum abscesses were treated by lancing and cauterization, while aching teeth were frequently removed by means of a bone punch.

The materia medica of the prehistoric Americans was an extensive and often revolting list, including emetics, laxatives, purges, febrifuges, intestinal antispasmodics, diuretics, antidyenterics, antirheumatics, antihemorrhagics and many others. A substantial number out of that list have been incorporated into modern medical practice. Many others, it is true, were of purely imaginary and psychic action. A large number of these indigenous cures have not yet been satisfactorily identified and analyzed due to ambiguous descriptions given by early sources.

Thus as a general rule we find that wounds and illnesses for which the cause was obvious were treated in a logical manner. However, when the cause was obscure or when their rational treatments failed, these aborigines like all God-fearing men invariably appealed to the higher power of the supernatural.

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