Dental Care in Ancient Assyria and Babylonia

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Dental and gingival problems may well be man's oldest afflictions², and since the toothache is one of the most intolerable of pains, it should be no surprise that attempts have been made through the ages to cure or ameliorate suffering from this ailment.

At its inception, tooth healing must have been the province of the same medicine man who treated other parts of the body. The earliest records of dental care lead to the Fertile Crescent's earliest centers of civilization: Mesopotamia and the Nile Valley.

This paper does not propose to address the entire subject of dentistry in ancient times. It offers a brief review of dental care in ancient Assyria and Babylonia³, a region whose people have historically been the subject of gross distortion⁴, which has even extended to our present topic. Because he has been quoted so widely, the garrulous Greek historian Herodotus (known alternately as the father of history or the father of lies, depending on one's perspective) bears heavy responsibility for this misinformation. For example, it was he who said:⁵

"They have no physicians, but when a man is ill, they lay him in the public square, and the passer-by come up to him, and if they have ever had his disease themselves or have known of anyone who has suffered from it, they give him advice, recommending

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². Evidence from paleolithic and prehistoric skeletal remains confirms the pathologic findings in humans as well as in animals. Traces of caries, dental abscesses and malocclusions have been found in early remains, such as in Rhodesian Man and other prehistoric skulls perhaps 30,000 years old. However, there are no records or evidence of any dental work performed during prehistoric times.
³. Assyria and Babylonia at times represented distinctively separate kingdoms, while at other times they were part of a larger single entity. For purposes of this paper, the author refers to the two regions collectively, and the terms Assyria, Babylonia, Assyrio-Babylonia, and Mesopotamia are used interchangeably.
him to do whatever they found good in their own case, or in the case known to them, and no one is allowed to pass the sick man in silence without asking him what his ailment is."

But when it came to medical practice in Egypt, the same Herodotus enthused:

"Medicine is practiced among them on a plan of separation; each physician treats a single disorder, and no more: thus the country swarms with medical practitioners, some undertaking to cure diseases of the eye, others of the head, others again of the teeth, others of the intestines, and some those which are not local."

In spite of Herodotus' polarized views of Egyptian and Babylonian medicine, neither civilization provides any evidence of dental extractions, tooth fillings, or mechanical dentistry.

Religious beliefs and burial practices of Mesopotamians did not require mummification of the dead, as it did in Egypt. In contrast to Egypt's dry and sandy land, unfavorable environmental conditions of Mesopotamia prevented good preservation of skeletal remains. Consequently, only a limited number of Mesopotamian skulls are available for study, and the information about Assyro-Babylonian dental care must largely be derived from records.

Having said this, Herodotus' history regarding medical practice in Babylon prompts the following observations:

(a) Contrary to Herodotus' contention, numerous documents known to us today prove that as early as 3,000 years before his time medicine was an

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6. Ibid, Book II p:108
7. Ancient Egyptian records do refer to persons with the title of "toothist", or "chief of the toothists", but these are believed to be ceremonial or honorary titles, and not referring to the practice of dentistry. See Hoffmann-Axthelm, W., History of Dentistry, (1981), Quintessence Publishing Co., Inc. Chicago, p.21. It is interesting to note that among the ten thousand or more skeletal and mummified remains discovered in Egypt, there existed a higher incidence of dental problems among the Pharaohs and their families, high ranking officials and aristocrats, than among the ordinary people. A high incidence of appalling dental conditions were found in the mouths of Royal mummies (e.g., tooth caries, and dental abscesses with resulting fistulae), and so far no evidence has turned up to indicate any therapeutic intervention or palliative procedures.
established science in Mesopotamia. Assyro-Babylonians not only practiced medicine, but they did so in a number of specialties. It is plain wrong for Herodotus to say that patients were left to the mercy of their families, neighbors and passers-by.

(b) Assuming that Herodotus based his comments on personal observation rather than on hearsay, his visit to Babylon would have occurred circa 450 B.C., during the Persian occupation. This would have followed in the wake of an extreme period of repression spanning at least two Persian kings and several decades. This protracted tyranny had reduced a highly civilized Babylonian society to the status of Persian serfdom; the country was denuded of its wealth, its able-bodied males largely impressed as soldiers or eunuchs. Widespread poverty and persecution no doubt led most Babylonian intellectuals to migrate, leaving the city bereft of physicians and other learned men around the time of Herodotus' possible visit.

Aside from the issue of Herodotus' bona fides, cuneiform tablets offer interesting information about dental care. The majority of these medical tablets were found in the library of King Ashurbanipal (in his capital of Nineveh), or at other locations such as Ashur, Babylon, Nippur and Ur. Although these tablets were written or collected between 1000 BC and 700 BC, they do not represent the medical knowledge of their time. Instead, they are copies of previous tablets in some cases written as early as 3000 B.C. Therefore, the discussion which follows has reference to that much earlier period.

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9 Babylon suffered significantly under the Persian rule. Ever increasing interference of the rulers resulted in unstable economy, rising prices and inflation. Babylonians revolted twice (522 and 521 B.C.) against Darius, and both times rebellion was defeated. See Olmstead, A.T., (1966) History of Persian Empire. University of Chicago Press, pp. 112-115. Xerxes (Ruled 485-465 B.C.) was more repressive toward Babylonians with ever increasing demand of recruiting fighting men to serve in Persian army and payment of the highest taxes in the Persian Empire. These repressive measures led to another unsuccessful Babylonian uprising. Babylon was destroyed and people were terribly punished. “The estates of merchant princes and citizens were confiscated and granted to Persians. So thoroughly was Babylon ravaged that barely a half-dozen tablets have survived from the remainder of the reign.” Ibid., p.237. See also, Oates, J., Babylon (1986). Thames and Hudson Ltd. London, pp 138-139
The Importance Accorded to Teeth

Teeth (šinnu=shinna in Akkadian; shinna and kika in Classical and Modern Assyrian) had an important place in the Assyro-Babylonian culture. For example, a chipped tooth would disqualify one from being a “Bārd”,\textsuperscript{11} which was a special, higher class of priests, including diviners, and interpreters of omens.

Legal documents place a higher value on teeth relative to other parts of the body. The penalties provided by the Hammurabi Code of Law took into account the rank and social status of the victim and offender. One of the Code provisions, paragraph 201 specified:

"If a man knocks out the tooth of a villain (poor man), he shall pay 1/3 Maneh (Mina) of silver"\textsuperscript{12}

Paragraph 198 of the Code prescribes one Maneh of silver as the penalty for knocking out the eye of a poor man. Considering that a person has only two eyes as opposed to 32 teeth, the tooth has clearly been accorded a substantially higher relative value.

It is interesting to note that while it deals with physicians (Paragraphs 215-223) and with veterinarians (Paragraphs 224-225), the Code of Hammurabi is silent on the subject of dental operations or therapy.

Dental Text Book and Prescribed Care

Assyro-Babylonians can be credited with the first dental textbook. The tablets yield a number of medical texts dealing with care and problems of mouth and teeth, namely, fetor, toothache, decayed, falling out or stained teeth. We shall refer to each of these later on.

Oral and Dental Hygiene

Mouth care was considered of great importance in Assyro-Babylonian culture. There were over a hundred prescriptions (although some combined with incantations) describing the care of mouth and teeth. It appears that cleaning of the nose and posterior pharynx was considered advisable to achieve optimal

care. The mouthwash solutions or the drugs were sniffed by patient or administered with a sniffing reed in patient's nose.

Mouth Problems possibly referring to "stomatitis"

These conditions have been described as "if a man's mouth has mouth-trouble" or "if a man's mouth is troublesome" or "if a fiend (devil) has attacked the mouth of a man". Some examples of prescriptions are as follow; 13

"If a man's mouth has mouth-trouble, with gill-apples, ammi, mustard, he shall cleanse his mouth and drink them in Kurrnu-beer and shall recover."

"If a man's mouth has mouth-trouble, with anemone, Calendula, shall cleanse his mouth and in Kurrnu-beer he shall drink, and shall recover."

Cleaning the mouth

The next prescription an important landmark in dental history introduced a method of cleaning mouth and teeth by use of the index finger bound with a cloth.

"If a man's mouth has mouth trouble, thou shalt bray Lolium in well-water, introduce salt, alum and vinegar therein, thou shalt leave it under the stars, in the morning thou shalt wind a linen-(strip) round his forefinger, without a meal thou shalt cleanse his mouth." 14

This remained the common cleansing method until the introduction of the modern toothbrush by the Chinese at the end of the fifteenth century. As with other Assyro-Babylonian concepts which radiated out to the rest of the world, this practice persists today among primitive people. 15

Fetor ex ore (bad breath)

Fetor was of a major concern and several prescriptions were devised for its treatment. Apparently, it was assumed that fetor originated not only from the mouth, but also from the nose, gums and stomach. While the primary therapy

was to wash the mouth and nostrils, other prescriptions called for rubbing the root of the teeth with medications. Thus, for example:16

"If a man's nose and mouth hold foetor,......thou shalt roll up a linen pledget, bray Salicornia-alkali(?) powdered alum....ammi, alum; sprinkle the pledget of linen with oil...manna(?)green thou shalt bruise, five shekels of....thou shalt let him drink, and....in oil and beer he shall drink,...,......thou shalt bray, in oil and beer he shall drink; ....thou shall reduce, bray, mix in oil, let him drink, and he shall recover."

"If a man's mouth has foetor....and his stomach......gum of Andropogon(?) thou shalt bray in oil and beer he shall drink, and he shall recover."

"If a man's....his heart burns his saliva comes, fetor attacks him...thou shalt weigh out(?) in equal quantities Nigella, ammi, Eruca, arsenic trisulphide, powdered alum, storax, and bray them: thou shalt rub a paste(?) of dough on the root of his tooth [until] blood comes forth, then these drugs thou shalt apply to his tooth, and he shall recover."

"If a man's heart burn and has foetor, a quarter of a shekel of gum of Andropogon (?) in oil and alappani-beer thou shalt mix, blow into his nostrils; with a feather thou shalt make him vomit, and, after this, mulutinna beer he shall drink and he shall recover."

"If a man's mouth is sick with foetor , one grain of fir-turpentine,......one grain of ammi, one grain of Lolium, one grain of Nigella,...one grain of asa foetida (?) thou shalt reduce, bray, in oil and beer he shall drink, and shall recover."

"If a man's mouth has foetor, mint, storax,...rue, myrrh, Akkadian salt....thou shalt introduce into his mouth and nose, it shall take the foetor away."

16. Thompson, R.C., 1926, pp. 64-68. Note. In this article when quoting translations of cuneiform clay tablets, a query (?), indicates that there is a real and justifiable doubt about the translation, and empty, dotted spaces indicate the damaged areas of tablet that could not be identified or translated.
Care of lips

Managing the care of lips was explained in the group of tablets dealing with mouth and teeth. Some of the recommendation follow:17

"If a man’s lips are cracked ......thou shalt bray Ferula communis (?) in anointing oil, and anoint his lips, applying it thereon on tow, and he shall recover."

If a man’s lips are cracked, arsenic and myrrh in oil thou shalt bray, anoint and he shall recover. If a man’s lips are cracked, and the blood has formed a scab (?), to remove the scab thou shalt repeat it (i.e. the above treatment), anoint the affected surface with curd, storax thou shalt apply, and he shall recover."

"If a man’s lips are cracked, thou shalt mix myrrh in wax, anoint his lips, and he shall recover. If his lips being broken, thou shalt fill it with unmelted wax and he shall recover."

And a treatment was also prescribed for an unspecified problem with the tongue:

"If a man’s tongue is.... Juice (tops) of tamarisk, juice (tops) of lemon, juice (tops) of Solanum, juice (tops) of.....thou shalt dry, pound and strain, on his tongue anoint curd, then put it on his tongue and he shall recover."18

Dental hygiene

Toothpicks

Archeological findings reveal that toothpicks played an important role in dental hygiene. In his excavations at the Royal Cemeteries of Ur (1926 and 1927), Sir C. Leonard Wooley discovered some vanity sets made of gold. Dating back to 3500 B.C.19, these included tweezers, ear scoops and toothpicks (see photograph on page 103.) These are the oldest known toiletry items discovered

17. Thompson, R.C., 1926, p. 63.
to date, and they indicate the importance of dental hygiene over 5,500 years ago. Moreover, the combination of these tools, and the fine details in their work, suggest that a certain stage of sophistication had already been reached in their development.\textsuperscript{20} Since the Wooley finds, a number of similar sets (made of gold, silver or bronze) have been discovered in various Mesopotamian cities. These discoveries have been made in the burial sites of both sexes, suggesting that teeth cleaning was a common and a valued practice among Assyro-Babylonians. Burying such instruments with the dead would enable the resumption of their daily use upon resurrection.

**Mouthwash Medications**

As for the use of mouthwash medications, it was said:

"Margāsu plant [an aromatic] is a medication for cleaning the teeth, you clean his teeth with it before he eats."\textsuperscript{21}

"...alum, mint and aromatic turu, drug to clean teeth, clean his teeth before meals."\textsuperscript{22}

"...šamšarbatu (type of willow) with Ammi and lye to clean the teeth."\textsuperscript{23}

**Removal of Dental Stains and Deposits**

Another prescription arguably also a landmark in dental history relates to the removal of film and deposits from the teeth, the bleaching of discolored teeth and prevention of bad breath.

\textsuperscript{20} These instruments were elegantly made; their upper part consisted of spiraling ornamental wires which fastened them to a ring. The instruments were kept in a conical case, richly decorated with ribboned filigree work. An opening near the rim of these cases indicates that the set was worn on a chain around the neck, or perhaps on a hipbelt or even some part of the clothing. See, Proskauer, C., "Oral Hygiene in the Ancient and Medieval Orient" Ciba Symposia, 1946, Vol. 8, No. 8, pp. 438-440.


\textsuperscript{22} Hoffmann-Axthelm, p. 30.

\textsuperscript{23} Thompson, 1949, p.293.
"If a man's teeth have become yellow, his mouth....him....thou shalt bray together salt of Akkad, ammi. Lolium, pine turpentine; (with these) with thy finger thou shalt rub his teeth ...., cleanse his mouth and nostrils ......wash his mouth with honey, oil and kurunnu-beer ...... with a feather thou shalt make him vomit, and then thou shalt bray lupins and turmeric together, let him drink them in oil and kurunnu-beer, and he shall recover.\textsuperscript{24}

Another prescription for removal of stain advised scraping the teeth:

"If..., fat of male sheep thereon ?......he shall scrape his teeth, .....thou shalt cleanse the black of his teeth it shall remove.\textsuperscript{25}

The use of the bare finger in cleaning the mouth and removal of stain from teeth; as far as we know, is the earliest such therapy recommended in the ancient literature.

Gum Massage and Gingival Care

Another prescription considered an important landmark in the history of dentistry is the earliest recommendation known for gum massage.\textsuperscript{26}

"If a man's teeth are all loose and decay sets in......thou shalt rub.....on his teeth until blood comes forth, and he shall recover."

"If a man's teeth are loose and.............and ammi thou shalt bray together, rub on .......and he shall recover"

As far as the present author can ascertain, this is also the earliest written record of gum massaging with various drugs, and of treatment for periodontal conditions.

Some other therapies include:\textsuperscript{27}

\begin{footnotes}
\item[24] Thompson, R.C., 1926, p. 61.
\item[25] Thompson, R.C., 1926, p. 62.
\item[26] Thompson, R.C., 1926, p. 61.
\end{footnotes}
"...two herbs for weakened teeth, to put dry between the teeth".

"...an herb for teeth that are falling out".

"For loosened teeth, Galbanum resin; apply to the teeth". 28

Dental Caries

Dental caries and toothache were attributed to some form of tooth-worm. The worm etiology of the toothache spread all over the world and persists to this day. This concept, known as "the legend of the tooth-worm", supposes that at the Creation a worm objected to having fruits as food for its nourishment. Instead, the worm asked the gods to permit it to dwell in the gums and between the teeth, to suck the blood of the former while causing decay of the latter. This legend was part of an incantation to expel the worm and application of medication on the decayed tooth. It was inscribed on one of the cuneiform tablets from the Ashurbanipal Library of Nineveh. 29

"After Anu (god of heaven) had created the heaven,
Heaven had created the earth,
The earth had created the rivers,
The rivers had created the canals,
The canals had created the marsh,
And the marsh had created the worm,
The worm went weeping before Shamash (Sun-god and god of justice)
His tears flowing before Ea (god of the abyss or of the waters)
"What wilt thou give for my food?"

What wilt thou give me for my sucking?"

"I shall give thee the ripe fig,

And the apricot"

"Of what use are they to me, the ripe fig

And apricot?

Lift me up and among the teeth

And the gums cause me to dwell!

The blood of the tooth I will suck,

And of the gum I will gnaw its roots!"

"Because thou hast said this, O worm,

May Ea smite thee with his mighty fist!"

Ritual direction for therapy ensues immediately following this incantation;

"Emmer mixed beer, cracked malt and sesame oil you mix together, recite the incantation three times over the mixture and put it over his tooth."

While this tablet inscription dates from the seventh century B.C., the earliest reference to the tooth-worm is found on a cuneiform clay tablet excavated in Nippur. It dates back to 1800 B.C., and it reads as follows:30

"If a person's tooth has a worm, pulverize (water) weed in fine oil. (You should proceed as follows:) If the tooth is diseased on the right side, pour the mixture on the left side and it will become well. But if the tooth is diseased on the left side, pour it on the right side and it will be healed."

The back of this tablet contains yet another prescription:

"If the tooth of a person has a worm, take the bark of an X-tree and apply it, and it will become well."

It is not altogether clear whether the belief that a worm causes dental caries originated from this legend, or because tooth decay resembles disintegrated wood or burrowing produced by worm in fruits. Whatever the case, the superstition endured well after the fall of the Assyrian and Babylonian Empires and it was adopted in other cultures.

It appears in Egyptian literature in Anastasi papyrus from the New Kingdom dated 1200-1100 B.C., and in Greek writings from 500 B.C.31 To remove a decayed tooth without surgery, Romans were advised to apply a worm on the aching tooth.

Among the causes of toothache listed in Chinese medical writings was;

"a little white worm with a black spot on its head"32

The worm etiology of toothache was considered a scientific fact by a number of reputable physicians and medical writers in Roman times, throughout the Middle Ages, and as late as the 18th century.33 The concept also influenced non-medical literature; allusions to the tooth-worm may be found from Homer to Shakespeare. In addition, the same concept has entered the vocabulary of modern languages: In English, the toothache is described as "a gnawing pain"; the German will say "Es wurmt mich" ("The worm has got me").34 Even more vivid reference is found in modern Assyrian and today's Farsi (Persian), where tooth caries is called "worm eaten tooth or tooth eaten by worm".

31. Hoffmann-Axthelm, p. 31, also, Weinberger, p.25
33. However, there were many skeptics. Pierre Fouchard (1678-1761), considered the founder of modern dentistry, disputed this theory and devoted several chapters of a book to a denunciation of it. See, Weinberger, p.25.
Decorated gold case, an earliest known vanity set containing ear scoop, tweezers, and toothpick dated about 3000 B.C., excavation from Ur.
Toothaches

Two large but fragmented tablets from the library of Ashurbanipal bear the title: "If a man’s teeth hurt", and they contain therapeutic conjuration and magical prescriptions. Some examples include:

"If a man’s teeth hurt, thou shalt take a mušdimgušina (caterpillar or maggot), the white of its inside thou shalt enclose in wool, with oil sprinkle put it on his tooth; male mandrake-root, ammi-root, storax, gum of galbanum, vinegar, flour against his mouth (tooth) thou shalt bind and he shall recover." \(^{35}\)

"If a man's teeth hurt, thou shalt... male mandrake-root, its juice thou shalt put on his aching tooth. If ditto, thou shalt pound a humbibišu, roll it up in wool, sprinkle with oil put it into the ear on the side of the aching tooth. If ditto, thou shalt bray heliebore, anoint his tooth therewith." \(^{36}\)

In a letter from Arad-Nana (Urad-Nana) a royal physician reports to King Essarhaddon:

"...as regards the cure of the aching teeth about which the king wrote to me, I will now begin with it; there is a great lot of remedies of aching teeth. I am collecting them..." \(^{37}\)

In this letter there is evidence that a diseased tooth was successfully treated; unfortunately there is no mention of drugs or the therapy used by the physician. But some of the remedies reported in other sources, both for toothache or tooth decay, are as follows:

"...Root of sunflower, a remedy for toothache, put it on the tooth..." \(^{38}\)

The following botanical drugs are listed in R. C. Thompson’s book "Assyrian Botany" for treatment:

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\(^{35}\) Thompson, R.C., 1926, p. 58., also, Thompson, 1949, p.218.

\(^{36}\) Thompson, R.C., 1926, p.75.


"Henbane (Dithania somnifera), for toothache apply alone and for decayed tooth" p:216.;230

"Kudimeru (cress, cardamon) bray in oil for a hallow tooth." p:58

"Rosemary (Rosmarinus officinalis) for decayed teeth, apply alone..." p:80

".. The root of is NIM-PAR (white caper) which, when thou uprootest it, dose not see the sun, a drug for decayed tooth, dry, bray mix with oil, apply thereon..." p:177

"Sam Sarbatu (type of willow) for foul mouth and toothache." p:293

Finally, in this group of remedies, a tablet from the Vatican collection contains sixteen prescriptions without any magical properties. The information is presented in three columns. The first column lists the medication, the second specifies the indication for its use, while the third explains the method of application. For example:

<table>
<thead>
<tr>
<th>Male pīlū plant (male mandrake)</th>
<th>Drug for toothache</th>
<th>apply to tooth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Root of the false carob which should not be exposed to sun-light when pulled from the ground</td>
<td>Drug against tooth-worm</td>
<td>apply to tooth</td>
</tr>
<tr>
<td>Root of the camel's thorn, not exposed to the sunlight while it is pulled from the ground</td>
<td>Drug for an affected tooth</td>
<td>dry, pulverize, mix with oil, apply to the tooth</td>
</tr>
<tr>
<td>Galbanum resin</td>
<td>Drug for loosened teeth</td>
<td>apply to the teeth</td>
</tr>
</tbody>
</table>

Alum, mint and aromatic
turu | Drug to clean teeth | clean his teeth before
meals

It is interesting to note that toothworm and toothache were not treated similarly
and given separate identity.

In general, the drugs used in dental and oral problems derived mostly from
botanical and mineralogical sources, and to a much lesser extent from animal
products. These drugs were applied to the tooth directly or with wool. The
identity of some of these drugs is still not known. Others, with sometimes
unusual names, are indeed substances with medicinal and therapeutic
properties. For example, "lion's fat", "black dog's fat" and "fat of mankind" are
synonymous with opium; "daughter of the fields" is red poppy; "lion's blood" is
sap of tamarisk. Most the drugs were astringents such as alum, gums, vinegar,
flour, mandrake, henbane and other vegetables, frog oil, and some other animal
products.

**An Assyrian Concept of Focal Infection?**

A most interesting letter written by a physician named Nabû-nâṣer to King
Esharaddon dated 670 B.C. has created much controversy in the ancient history
of dentistry. There have been numerous translations and retranslations of this
letter in the past few decades, and it is an example of the difficulties inherent in
the study of Assyriology. Because of the significant interest in this letter and
differing interpretations offered by scholars, I will refer to most of its translations
in chronological order.

According to this letter,\(^40\) the monarch is putting (or applying) pressure on the
physician to come up with a firm and final diagnosis about a patient. In his
answer to the King, and following the obligatory greetings and salutations, the
physician offers his final opinion, which in large measure relates to a dental
problem. What follows is a selection of translations:

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\(^40\) This letter is part of the Kuyundjik Collection at the British Museum. The texts were published by
Robert F. Harper, Assyrian and Babylonian letters belonging to Kuyundjik Collection of the British
Museum. London, 1892-1914, and a translation by Leroy Waterman, (1936) *The Royal Correspondence
of the Assyrian Empire*, Ann Arbor, is known as No. 586 K1102.
A. T. Olmstead (1923):\textsuperscript{41}

"He will speak the truth with the king as the king demanded; the pain in his head, his sides, and his feet has come from his teeth, they must be extracted."

R. H. Pfeiffer (1935):\textsuperscript{42}

"I have given my diagnosis to the king my lord in one word: "Inflammation" He whose head, hands and feet are inflamed, owes his state to his teeth: his teeth should be extracted. On this account his insides are inflamed. The pain will presently subside, the condition will be most satisfactory."

L. Waterman (1935):

"The burning of his head, his hands and his feet wherewith he burns is because of his teeth. His teeth should be drawn."

Waterman comments that it is "a prescription in dentistry, based on the theory of tooth infection."

At the request of Townend, R. C. Thompson re-examined the tablet and offered the revised translation (1938):\textsuperscript{43}

"Concerning that which the King my lord sent me, thus "Of thy certainty send answer" I will tell the final decision to the King my lord. "The inflammation wherewith his head, his hands (arms), feet (legs), are inflamed: is due to his teeth. His teeth must be drawn: it is on this account that he is inflamed; he will reduce it through internal channels. Then he will all be well..."

Townend comments on this translation:

"Clearly the tablet indicates two most important points in Assyrian medicine. First, the implication that the physician associated or appeared


\textsuperscript{43} Townend, B.R., An Assyrian Dental Diagnosis. Iraq, 1938, 5:82-84.
to associate constitutional disturbances with some affection of the teeth, and second, the reference to therapeutic extraction of the teeth."

He adds,

"We find this old Assyrian physician saying his teeth must be drawn, and saying it is a way which implies that this was quite a usual and commonplace operation just as it is today.

The first part of the passage, where the physician connects the inflammatory condition of other parts of the body to the condition of the teeth is even more remarkable, because the relationship between oral sepsis and systemic disease has only been realized within the last fifty years."

"Yet inspite of this evidence, it is difficult to believe that this doctor anticipated medical thought by over 2,000 years and moreover, that he anticipated a concept which has been built upon the germ theory of disease about which he could have no knowledge."

Yet another translation, this by G.G. Cameron, was reported by George B. Denton (1943):45

"The king my lord wrote me saying: "In very truth inform me!" The truth to the king my lord I shall speak: the burning of his head, his hands, his feet (wherewith) he burns is on account of his teeth. His teeth are coming out, on account of (that) he burned. In his chamber he lay down. But now he is very well....."

Denton objects to the term "inflammation" being used by the early translators in lieu of the term "burning". As he is quick to note, burning is one of the symptoms of inflammation and it may exist in conditions other than inflammation. He also disagrees with the diagnosis of focal infection. As to teeth extraction, he

44. The concept of focal infection was introduced by Dr. William Hunter in 1910. Following his theory, a small and localized infection such as in a tooth could lead to inflammatory and systemic disturbances elsewhere in the body. The idea assumed that bacteria or toxins from bacteria could travel through the blood stream to these distant structures of the body. See, Hunter, W., The Role of Sepsis and of Antiseptic in Medicine. Lancet, 1911, Jan.14, 1:79-86.
considers the term "teeth are coming out" to refer merely to poor condition of teeth which are falling out.

The most recent translation is that of Simo Parpola (1970).\cite{Parpola1970}

"The burning wherewith his head, arms and feet were burnt was because of his teeth: his teeth were to come out. Because of that he felt burnt and transferred it to his innards. Now he is very well."

This translation suggests that the patient is a baby who is teething and the fever was caused by tooth eruption.

Due to the lack of evidence in skeletal remains and to the absence of documentation on teeth extraction, the latest translation is the one most widely accepted today, subject to future revision depending on a new translation or on new evidence.

Conclusion

Assyro-Babylonian experience represents the earliest chapter in the history of dentistry. We learn that our ancient ancestors were afflicted by the same ailments prevalent today. The struggle to alleviate pain and suffering from toothache and other oral problems began in their time. They indulged different treatments and experimented with drugs. They recognized that intolerable pain produced by an inflamed pulp or tooth abscess was something more than imaginary, hence their emphasis on medical rather than on magical therapy. Because Assyrians were a profoundly religious people, it was common for them to seek the help of the gods along with medical treatment.

This article tried to emphasize the rational medical aspect of therapy, rather than the magical or non-medical role played by priests. An attempt was made to avoid technical medical terminology to render the presentation more accessible to lay readers. In the preparation of the article, the present author was reminded once again of the unselfish dedication of Assyriologists. These scholars have spent years helping uncover the impressive extent to which our ancestors contributed to contemporary civilization. It is a magnificent story on many counts. We have unbound respect for this history and equal admiration for those determined to tell it.

Bibliography


