

ORIGINAL ARTICLE

Leprosy in Mesopotamia

Abstract

Leprosy is an ancient disease, known from South Asia since at least 2000 BCE. While there is no physical evidence of this disease in the region before about 50 CE, five different words are translated as “leprosy” in Mesopotamian texts and some of them occur frequently. Based on the texts, one word (*garāšu*) is rarely used and there is evidence that the other four words relate to diseases that were treated, could be cured and, did not always require that affected individuals be permanently excluded from society. From this we conclude that the four commonly seen words do not describe modern leprosy. Three words (*saḥarašubbû*, *epqu*, *garābu*) also signify “scales” or “scabs”, which naturally prompts the speculation that they are skin diseases more serious than eczema. The final word (*būšānu*) has been associated with several modern diseases, but the common feature appears to be a bacterial infection affecting the skin, mouth and nose.

Key words: Infection, Leprosy, Mesopotamia, Skin disease

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Simon Brown¹
David C Simcock²

1- School of Human Life Sciences, University of Tasmania, Locked Bag 1320, Launceston, Tasmania 7250, Australia

2- Institute of Food, Nutrition and Human Health, Massey University, Private Bag 11222, Palmerston North, New Zealand

Correspondence:

Simon Brown
School of Human Life Sciences,
University of Tasmania, Locked Bag
1320, Launceston, Tasmania 7250,
Australia.
Simon.Brown@utas.edu.au



Introduction

Leprosy is caused by infection with *Mycobacterium leprae*. In the relatively mild tuberculoid form, the disease is characterised by pale or reddish skin lesions, numbness and muscle weakness. In the severe lepromatous form, the dermis is thickened, producing the nodules frequently associated with the disease, and there is often involvement of the nasal mucosa.¹

The seventh century Greek Byzantine physician, Paul of Aegina wrote an influential medical encyclopaedia² in which he described various forms of “leprosy”, including *leuce*, *alphos* and *lepra* (from which the word leprosy is derived and was the Greek translation of the Hebrew *šāra ‘at* in the Septuagint).³ However, none of these corresponds to the modern conception of the disease, which is probably what Paul called *elephantiasis* or *elephas*⁴, which should not be confused with lymphatic filariasis, which is also known as elephantiasis.⁵ He also distinguished these forms of “leprosy” from skin diseases, such as psoriasis or scabies.⁶

During the preceding millennia, many terms had been used for skin diseases in Mesopotamia. For example, five words meaning “leprosy” are given in the Chicago Assyrian Dictionary:⁷ *saḥarašubbû*, *epqu*, *garābu*, *garāšu* and *būšānu*. These are distinct from those for eczema (*guraštu* or *kuraštu*, *laqlaqqu* and *šīqu*) and from a variety of other skin diseases (such as *garārtu* or *karārtu*, *ḥazīqatu*, *kiššatu*, *ūndu* and *zirqu*), a rash (*kibšu*) and scabies (*ekkētu* or *eggētu*).

It is often stated that some of Alexander’s soldiers having been infected in India (327-326 BCE) carried leprosy with them on their return.⁸ However, the disease may have been known in Persia and Egypt prior to that. For example, Herodotus, writing about 440 BCE, stated that *lepra* was known in Persia where affected individuals were isolated⁹ and “leprosy” is mentioned in the *Avesta* of the Zoroastrians.¹⁰ “Leprosy” was also known in Egypt because a treatment was described in the Ebers Papyrus¹¹ which dates from about 1550 BCE, but was probably copied from a much older source. More recently, it has been speculated¹² that “leprosy” was spread by the trade between India and the east coast of Africa, which may be consistent with one of the possibilities described by Monot *et al.*¹³

Despite the proliferation of labels and the documentary record, it is unlikely that what we know as leprosy was known in ancient Mesopotamia. Palaeopathological studies of skel-

- 1- Britton and Lockwood, 2004.
- 2- Adams, 1846: 2, 15-23.
- 3- Hulse, 1975; Zias, 1989.
- 4- Dols, 1979; Manchester, 1984; Zias, 1989.
- 5- Hajdu, 2002.
- 6- Adams, 1846: 2, 15.
- 7- CAD, 1956/2010.
- 8- Mark, 2002.
- 9- Rawlinson, 1861: 1, 139.
- 10- Mortazavi *et al*, 2001.
- 11- Bryan, 1930: 88-94.
- 12- Mark, 2002.
- 13- Monot *et al*, 2005.

etal remains and the detection of *M. leprae* DNA in ancient bone have led to the unambiguous identification of cases of leprosy in India¹⁴ dating from about 2000 BCE, in Egypt¹⁵ in the second century BCE, Israel¹⁶ and in Central Asia¹⁷ dating from the first millenium CE and later throughout Europe.¹⁸ The lack of such physical evidence from ancient Mesopotamia may simply reflect the small number of reports of skeletal remains¹⁹ and this may not serve as evidence for the absence of leprosy at the time. Nevertheless, it does prompt a reconsideration of whether *saḥarašubbû*, *epqu*, *garābu*, *garāšu* and *būšānu* could have been leprosy.

There is a risk in attempting to attach a modern diagnosis, based on a relatively small number of fragments of text, to a disease that is millenia old.²⁰ However, this has not proved to be a deterrent previously, so here we adopt the conservative approach of Kinnier Wilson²¹ and use the available text to test four characteristics of leprosy: that (i) any description of the symptoms were not inconsistent with the disease, (ii) no attempt was made to cure it, (iii) it was incurable and (iv) those affected were excluded from society. We consider the first of these criteria to be the weakest because communication between the doctor and patient can be difficult even when they can talk to one another; and when they are separated by a few millenia the probability of miscommunication is even higher. However, the fourth criterion may not be reasonable unless it can be demonstrated that exclusion was reserved for particularly severe illness. Finally, we assume that the words were used consistently, which seems reasonable given that texts differing in age by almost a millenium are often very similar.²²

saḥarašubbû and epqu

The literal meaning of *saḥarašubbû* is “covered with dust (i.e., with dustlike, whitish scales)”²³ and Kinnier Wilson²⁴ argued *saḥarašubbû* (or *saḥarašuppû* or *suḥarašubbû*), was leprosy because it was incurable; affected individuals had the expected symptoms and the sufferers were excluded from society rather than being treated.²⁵ He makes the points using two fragments of text. The first²⁶ invoked the god Sin to clothe someone completely with leprosy (*lepra*) until the day (s)he dies and banish him or her. This follows a common pattern (for example, at least one other similar example was translated by Oppert and Ménart²⁷). However, *saḥarašubbû* appears in neither of these. Instead, *išrubû*,

- 14- Robbins et al, 2000.
- 15- Dzierzykraj-Rogalski, 1980.
- 16- Matheson et al, 2009; Spigelman et al, 2001.
- 17- Blau et al, 2005.
- 18- Dols, 1979; Zias, 1989.
- 19- Sołtysiak, 2004.
- 20- Geller, 2010: 4; Neufeld, 1986.
- 21- Kinnier Wilson, 1966.
- 22- Biggs, 2005.
- 23- Oppenheim, 1956.
- 24- Kinnier Wilson, 1966.
- 25- Nougayrol, 1948.
- 26- Oppert et al, 1877: 120, 16-8.
- 27- Oppert et al, 1877: 91, 19-21.



one of a small set (including *iššubū* and *isribū*) of similar variants of *saḫarašubbū*, is written in the text. The symptoms of *saḫarašubbū* are described in the second passage “[if] the skin of a man exhibits ‘white *pūšu*-areas’, or is ‘dotted with *nuqdu*-dots’, such a man has been rejected by his god and is (to be) rejected by mankind”.²⁸ Kinnier Wilson suggested²⁹ that these two possibilities correspond to the tuberculoid and lepromatous forms of the disease, respectively. Mark³⁰ points out that the skin lesions in leprosy are not white and so dismisses the suggestion that this passage describes the disease, but he did not consider the possibility that the other four terms might refer to leprosy.

Both of these passages, like others,³¹ indicate that those affected by leprosy were excluded from society. However, there is at least one example where the exclusion was temporary because “one who had *saḫarašubbū* has been cleansed and may re-enter his house”.³² Clearly, this also indicates that *saḫarašubbū* could be cured and there is even a hint that this was the case in the curse “may Sin clothe his whole body in *saḫarašubbū* which will never lift”³³ and, perhaps, if “you put (wool from the sheep’s forehead) either on an unclean man or on a leper [*saḫarašubbū*]”³⁴ this might be achieved. Given these three examples, it is likely that *saḫarašubbū* might be treated; it could be cured and affected individuals might be excluded only temporarily. Given the criteria we outlined above, it seems unlikely that *saḫarašubbū* could be what is now considered leprosy.

The term *epqu* replaced *saḫarašubbū* in standard Babylonian,³⁵ implying that they might refer to the same disease. Irrespective of this, there is some indication that individuals affected by *epqu* were not necessarily excluded. For example, the quotation “he who swears (falsely) by DN and DN₂ will be covered with *epqu*, will become poor and have no son and heir”³⁶ might be taken to indicate that *epqu* need not prevent the sufferer from having a son and heir. It is possible to read this as reinforcing the threat, but if *epqu* required complete exclusion, there would be no need to make the point.

There is clear evidence that in the past it was understood that some infectious diseases were more dangerous than others. For example, in a letter dating from the 18th century BCE, Zimrilim, King of Mari, wrote to his Queen *Šibtu*:

“I have heard that Nanname is suffering from skin lesion; yet, she frequents the palace. It will infect many women with her (ailment). Now, then, give strict orders that no one drink

28- Kinnier Wilson, 1966: 50.

29- Kinnier Wilson, 1966.

30- Mark, 2002.

31- Nougayrol, 1948.

32- Clay, 1912/1925: 4, 24, 61.

33- King, 1912: No. 7 ii 16.

34- King 1896: 12:97

35- CAD E 246.

36- Gadd, 1963.

from the cup she uses, and no one sit on the seat on which she sits, and no one lie on the bed on which she lies, so that it should not infect many women with her (ailment). That [skin lesi]on is catching.”³⁷

This clearly indicates that the “skin lesion” (*simmu*) was contagious, implying that others were not. Despite this, it was not necessary that the affected woman be excluded. However, it was necessary that care be taken to ensure that the affliction was not passed on and specific infection control measures are given. Moreover, the proverb “a rash [*simmu*] without a doctor is like hunger without food”³⁸ implies that *simmu* was treated. As *simmu* is equated with *epqennu*,³⁹ which means “leprosy-like”; it is likely that a distinction was made between “leprosy-like” diseases that did not require exclusion, and “leprosy” (*epqu*), consistent with the possibility that it necessitated temporary exclusion.

būšānu, garābu and garāšu

The literal translation of *būšānu* (or *bu’sānu*) is “the evil-smelling disease”,⁴⁰ but the definitions range from “skin disease”⁴¹ to “*übler Geruch, eine Krankheit der Nase*”⁴² and “a severe disease affecting mouth, nose, and skin”.⁴³ However, there is a strong suggestion that it is “... a type or stage of leprosy”.⁴⁴ In contrast, *garābu* is defined as “leprosy” and equated with *saḥarašubbû*,⁴⁵ whereas *garāšu* is a “malignant skin disease, probably leprosy”,⁴⁶ although it appears to be used less frequently than either *būšānu* or *garābu*.

As both Goetze⁴⁷ and Kinnier Wilson⁴⁸ maintain, *garābu* and *būšānu* are equated to the same logogram,⁴⁹ from which it seems reasonable to infer that they must be related. However, *garābu* and *garāšu* also share the same logogram,⁵⁰ but this differs from that common to *garābu* and *būšānu*. Given the relative rarity of *garāšu*, we feel safe in assuming that the more important connection is that between *garābu* and *būšānu*.⁵¹

However, *būšānu* appears in the therapeutic texts among diseases of the teeth, implying that it was treated, whether using “wild grape”⁵² or hellebore⁵³ is unclear. That *būšānu* is treated, and perhaps even cured, is made even more explicit by “you relieve the *būšānu*, the pulsating in the temples that makes one hop around”.⁵⁴ Similarly, the implication of a “medicine against *garābu*”⁵⁵ is that the disease was treated. Consequently, *būšānu* is unlikely to be leprosy, but, based on the literal translation, Kinnier Wilson⁵⁶ suggested that it

- 37- Neufeld, 1986.
- 38- CAD S 276.
- 39- CAD E 246.
- 40- Kinnier Wilson, 1996.
- 41- Goetze, 1955.
- 42- von Soden et al, 1985: 1, 143.
- 43- CAD B 350.
- 44- CAD B 351.
- 45- CAD G 46.
- 46- CAD G 49.
- 47- Goetze, 1955.
- 48- Kinnier Wilson, 1966.
- 49- Rawlinson, 1861/1875: 2, 44 No. 2, 13-4.
- 50- CAD G 49.
- 51- Goetze, 1955; Kinnier Wilson, 1966.
- 52- Kinnier Wilson, 1966.
- 53- von Soden et al, 1985: 1, 143.
- 54- Ebeling, 1919: 321-5.
- 55- Landsberger et al, 1970: XVII 216.
- 56- Kinnier Wilson, 1966.



might be scurvy. Subsequently, it was proposed that *būšānu* might include diphtheria, bronchiestasis, visceral leishmaniasis, acute necrotizing ulcerative gingivitis and a variety of oral infections,⁵⁷ culminating in Salin's⁵⁸ suggestion that *būšānu* represents a family of pathologies. Whatever *būšānu* and *garābu* might have been, they were treated and could be cured and further there was no implication that affected individuals were excluded.

How are the diseases related?

If none of the terms identified mean leprosy, which is at least consistent with the view that the Biblical use of the word "leprosy", should not be taken literally,⁵⁹ what might they have been? Bearing in mind our reservations about attempting to attach a modern diagnosis to an ancient disease, we adopt a very conservative approach.

The literal meaning of *saḥarašubbû* is "covered with dust (i.e., with dustlike, whitish scales)",⁶⁰ *epqu* is also associated with "scales" because the phrase *ša e-ep-qa-am ma-lu-ú* means "who is full of scab"⁶¹ and the second definition of *garābu* is "scab".⁶² Given that *saḥarašubbû*, *epqu* and *garābu* are distinguished from eczema in CAD, we infer that they are likely to be more serious, but given the association with scales and scabs, it seems probable that they all have such features (Figure 1).

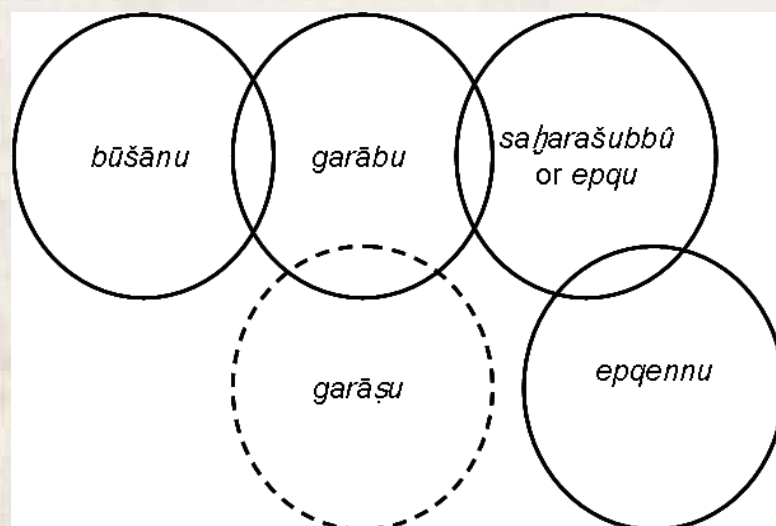


Figure 1. Inferred relationships between words defined as leprosy based on the common logograms and word usage.

Then, it seems that *būšānu* affected the skin, the mouth and the nose, but not the lungs, as is apparent from "if a man is

57- Kinnier Wilson, 1996; Scurlock et al, 2005.

58- Salin, 2010.

59- Hulse, 1975.

60- Oppenheim, 1956.

61- Ibid.

62- CAD G 46.

ill in the lungs and he has būšānu-disease in his mouth”.⁶³ It is also distinguished from epqennu because they are listed separately in “severe chills, epqennu-disease, and būšānu-disease”.⁶⁴ Of the modern diseases associated with būšānu, several involve bacterial infection (diphtheria, bronchiectasis and acute necrotizing ulcerative gingivitis) and even scurvy may be associated with secondary oral infection.⁶⁵ While Salin’s⁶⁶ suggestion that būšānu represents a family of pathologies is entirely reasonable, a plausible characteristic might be an infection of the skin, mouth and nose. Despite this, the fact that garābu and būšānu are equated to the same logogram⁶⁷ may imply that they share some characteristics (Figure 1).

Conclusions

It is likely that none of the diseases identified as “leprosy” in Mesopotamia can be equated with the modern leprosy. Whether or not this is the case, it is reasonable to assume that some of those affected were treated and others were at least tolerated, even if some of those might have been “... chained in their huts under the walls of the city ...”.⁶⁸ It is clear that previously other affected individuals were expelled from their community, but some of them were later allowed to return. In these respects, their treatment was more enlightened than any other treatment that was to be seen for centuries.

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- 63- Thompson, 1923: 55, 1 6.
64- Goetze, 1955: 27.
65- Touyz, 1984.
66- Salin, 2010.
67- Rawlinson, 1861/1875: 2 44 No. 2 13-4.
68- Nougayrol, 1948: 208 n. 21.



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Sadi (Persian poem, 13th century AD) Tomb, Shiraz, Iran

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