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THE POISONED ARROWS OF AMOR

Cases of syphilis from 16th-century Iceland

While syphilis spread rapidly in Europe during the late 15th and early 16th centuries, scholars have doubted that the disease reached Iceland at that time. Still, discoveries of nine cases of venereal and congenital syphilis during a recent excavation on a monastic site, Skriðuklaustur (1496–1554) in East Iceland, indicate that the disease became an epidemic there, as it did worldwide. These findings may also be regarded as an important source of information on the contacts and communications of a country, which is commonly regarded as having been socially isolated from the outer world, with its neighbouring countries during the medieval times.

Keywords syphilis, Medieval Iceland, Skriðuklaustur, monastery, communication

Introduction

Nine cases of both venereal and congenital syphilis, caused by bacteria of the genus *Treponema*, have been identified in an assemblage of 198 skeletons exhumed at the monastic site Skriðuklaustur in East Iceland, dating from the period 1496–1554. Before these identifications were made, the disease was not thought, with any certainty, to have reached Iceland until modern times, while it became an epidemic during the late 15th and early 16th centuries worldwide. The findings at Skriðuklaustur may be interpreted as an indication of a syphilis outbreak in Iceland at the same time as it spread rapidly in its neighbouring countries. Moreover, it even supports recent theories that Iceland was not as socially isolated from the rest of Western Europe during the Middle Ages, as has been claimed earlier.

The Skriðuklaustur monastic site

The Augustinian monastery at Skriðuklaustur in East Iceland (Figure 1) was established in 1493, but closed down shortly after the Lutheran Reformation in Iceland at the beginning of the 1550s. Its cemetery was consecrated three years after the foundation of the monastery and shortly after that the earliest burials were made.¹ There were eight other monastic institutions in Iceland during the Catholic period, but Skriðuklaustur is the only one that has been nearly fully excavated so far, although the ruins of two

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FIGURE 1 Map of Europe. The Skriðuklaustur monastery was located in East Iceland.

other monastic sites have been partially investigated: the ruins of the monastery at Viðeyjarklaustur and the nunnery at Kirkjubæjarklaustur.²

Until the archaeological investigations at Skriðuklaustur started in 2000, little was known about the buildings or the activities of the monastery. Up to now (spring of 2011), 1,300 square metres of its ruins have been excavated and 198 graves in its cemetery exhumed (Figure 2).³ The excavation has revealed that the monastic buildings at Skriðuklaustur appear to have contained most of the elements that are common to other religious institutions of the Augustinian Order outside Iceland.

Although they were built with turf, stones, and driftwood, the interior plan of the structures is typical, as the monastery was constructed around a well defined cloister-garden, forming a closed square of four ranges. The south range was formed by the church, the western range by the brethren's living quarters, the northern range by the kitchen and the refectory area, and the storage rooms and stables were located in the eastern part of the complex, farthest away from the sacred space of the brethren. The square was fully enclosed by a thick wall in the southeast.⁴

The human bone assemblage at Skriðuklaustur strongly indicates that the monastery served as a hospital. This is supported by pollen analysis, which shows that medieval medicinal plants were grown at the site during the time of the monastery. Besides this,



FIGURE 2 Skriðuklaustur monastery and cemetery after excavation, 2000–2010. The syphilis cases are highlighted with circles.

Source: Drawn by Vala Gunnarsdóttir for this article.

several surgical instruments have been identified in the artefact collection. These are mainly lancets, scalpels and needles.⁵ The human bone assemblage contains a high number of skeletons bearing signs of long-term diseases and illnesses commonly known from medieval times. There is evidence of syphilis, tuberculosis, leprosy, hydatid disease, congenital disorders (e.g. cleft palate), periodontal disease, metabolic insult, fractures and traumatic injury and non-specific infection.⁶

Interestingly, the cemetery shows a spatially based pattern in the division of graves, based on the principles of sex, age, religious and secular status, and disease in some cases.⁷ There are four different burial areas visible that may have each had discrete meaning in regard to the monastic complex itself. The patients were all buried in the area west of the church, including in the cloister-garden; the area east of the chancel was designated for the brethren, and later the sheriffs that resided at the Skriða farm, after the monastic period ended in 1554; the area south of the church was where the lay people were buried; and finally, the area inside the church building itself was chosen for the

benefactors of the monastery. Furthermore, the patients, who were exclusively buried inside the cloister-garden and west of the church, received their last resting place in accordance with their age and sometimes disease. The younger patients were buried inside the cloister-garden but the older patients were west of the church.

The nine syphilis cases from Skriðuklaustur monastery are all found in graves located in the cloister-garden and east of the choir, which is the area of the cemetery that was designated for patients. The skeletons are of individuals of all ages and both sexes, but only one of the individuals identified as having syphilis was male. The younger individuals bearing signs of syphilis were buried inside the cloister-garden but the older ones west of the church (the syphilis cases are shown by circles around the graves in Figure 2). Both venereal and congenital syphilis have been identified among the nine syphilis cases.

Venereal and congenital syphilis

Venereal syphilis is recognized worldwide, but it also appears in a congenital form. At least three other types of the disease are known in different areas of the world, such as in the Tropics, the Caribbean, countries of the Middle East, West Africa and Central and South America.⁸ These are all non-venereal varieties and will not be the subject of this article.

Venereal syphilis transmits through sexual intercourse between individuals, but congenital syphilis is transmitted when the foetus is infected by the bacteria *in utero* or during birth. In these cases, the infection transmits from the diseased mother to her unborn child, in some instances causing stillbirth. If they survive the birth, individuals with congenital syphilis can survive until early adulthood, as some of the cases from Skriðuklaustur demonstrate.⁹

Both the venereal and congenital forms of syphilis develop in three stages – the so-called primary, secondary and tertiary stages – and this development can take up to 30 years. The signs and symptoms of the disease vary depending on which of the stages is presented, but the secondary stage starts some days or weeks after the primary infection. Being a long-term illness, the infection rarely causes any bone formation during the initial stages, but it is known to appear in some cases. During the two later stages of the disease, and particularly in the tertiary one, significant changes occur on bones and skin, and serious damage can occur to the central nervous and cardiac systems, as well as outer lesions and pimples on most parts of the body. The tertiary lesions occur progressively between two and ten years after the initial infection.¹⁰

Archaeologically, the symptoms of syphilis generally become visible on the frontal bone, tibia, ribs and sternum, where the lesions and pimples mostly settle. A child born with congenital syphilis often shows a number of symptoms shortly after birth, but can also be born without any symptoms. The most common symptoms visible on the skeletons of individuals with congenital syphilis are pimples on the frontal bones, deformity of the nose, underdevelopment of the maxilla, as well as peg-shaped teeth.¹¹

There are several theories about the origins and spread of syphilis.¹² The most common one is related to the return of Christopher Columbus from America to Europe in the late 15th century, as the disease had its first outbreak in Europe around that time.¹³ Cases from this time indicating the rapid spread of syphilis have been found during excavations of burials in, for example, Trondheim in northern Norway,¹⁴ Rostov Velikiy near Moscow in the northeast of European Russia,¹⁵ England,¹⁶ Denmark¹⁷ and North Carolina in the United States.¹⁸

However, cases from the different areas of both the Old World and America indicate that the disease existed much earlier, even as early as the Stone Age, although it was not as widespread as in the late 15th and early 16th centuries. Initially, syphilis was most likely a single disease that later on became a permanent factor among humans, as man spread around the world. The current theory is that the venereal type is a variant of syphilis that, at an unknown date, developed from the original non-venereal bacteria of the same genus.¹⁹

Consequently, most scholars regard the spread of syphilis around the turn of the 15th century as an epidemic.²⁰ A disease is commonly classified as such when new cases during a given period and population substantially exceed what is expected, based on earlier experience.²¹ However, syphilis did not pass, as many other epidemic diseases do; instead it became a permanent illness among humans and is still present today.²²

The nine cases from Skriðuklaustur

The number of syphilis cases at the Skriðuklaustur monastery is unexpectedly high, as nine individuals with the disease have been identified in a skeletal assemblage totalling only 198 skeletons (Table 1). At least two of the cases bear the signs of congenital syphilis. The youngest individual (grave no. 46) was just an adolescent at death but still showed severe symptoms of congenital syphilis that had developed to the tertiary stage. Four of the cases were of individuals that lived until their fifties (graves no. 126, 128, 130 and 181), and five were younger than 30 years old (graves no. 23, 29, 91 and 195), including a 13–14-year old child (grave no. 46).

As can be read from Table 1, in six of the cases from Skriðuklaustur the disease had reached the final tertiary stage (Figure 3). This includes younger individuals, in which cases the disease most likely caused their death. Conversely, the cause of death of the older individuals cannot be concluded with any certainty, as most of them also suffered from other diseases of a chronic nature, such as tuberculosis and hydatism, or they had suffered serious injuries.

For example, the individual in grave no. 128 at Skriðuklaustur, an older woman, had been seriously injured on the arch of the second lumbar vertebra, undoubtedly causing complete flaccid paralysis of both lower limbs. The woman survived the severe trauma but could not walk any more, not even on crutches. Extreme stress on the upper limbs shows that she moved on a kind of low cart or sledge, driving it with her arms.²³

Furthermore, this individual was buried with her knees drawn up (grave 128, Figure 4), which is a highly unusual position for a body in a grave in a Christian cemetery. The other individuals identified with syphilis were buried according to the Christian fashion, with the legs stretched, and all had their heads in the eastern end of the grave. The reason for the unusual positioning of the body is unknown, but it may have had something to do with the syphilis or other illnesses the individual suffered from. Similar body positioning was found in the cemetery of the leper hospital of St. Mary Magdalene, Chichester, England, but there an advanced stage of leprosy is regarded as having required the person to be buried in this position.²⁴

It may seem odd to find both women and children buried in the cemetery of a monastery whose main inhabitants were monks, as at the Skriðuklaustur monastery. Material from other monastic hospital sites shows that this was not unusual, so the fact that some of the individuals with syphilis found at the site in question were women

TABLE 1 The nine cases of syphilis found at the Skriðuklaustur monastic site, dating 1496–1554

No.	Grave	Location	Sex	Age	Other alterations	Identified by
1	23	Cloister	F	20–25	Tertiary syphilis	Zoëga 2007
2	29	Cloister	F	20–25	Tertiary syphilis Congenital	Zoëga 2007
3	46	Cloister	F	13–14	Tertiary syphilis Congenital	Hawtin 2004
4	91	Cloister		Young adult	Tertiary syphilis	
5	126	W-cemetery	F	45+	Tertiary syphilis Osteomyelitis Hydatism Osteoporosis and osteoarthritis In the left hand, the third phalange fused at 90° angle, due to a fracture	Collins 2010
6	128	W-cemetery	F	45+	Syphilis Tuberculosis, osteomyelitis, arthritis and periostitis Paralysed due to a fracture on the vertebra Benign tumors on the skull vault	Pacciani 2010
7	130	W-cemetery	M	40+	Tertiary syphilis Osteomyelitis Gummatous lesion of the cranium Early signs of arthritis Right femur shorter because of a healed fracture	Pacciani 2010
8	181	East of church	F	45+	Syphilis Other cranial deformity	Ricci 2010
9	195	W-cemetery	F	25–30	Syphilis	Ricci 2010

and children is not anomalous. For example, the only case of syphilis discovered at the hospital run by the Augustinian monks at Æbelholt in Denmark was of a woman who died age 25–30.²⁵

Archaeological findings also indicate that monastic hospitals generally were flexible in this regard and, in fact, adjusted their primary roles to the charitable demands of the surrounding society. For example, an increased number of female burials were identified over time in the cemetery of the Augustinian friary of St. Mary Merton in England.²⁶ At the Æbelholt monastery and hospital, individuals of all ages and both sexes were buried in its cemetery, although the female and the child burials were relatively fewer inside the church.²⁷



FIGURE 3 Grave no. 23 from Skriðuklaustur. The infection due to syphilis was clearly visible on the frontal and long bones.

Source: Author.



FIGURE 4 The woman in grave no. 128 was buried with the knees drawn up.

Source: Photograph taken by Margrét Valmundsdóttir.

The young age of four of the syphilis patients found at Skriðuklaustur, two of which most likely had venereal syphilis, can therefore be regarded as an indication of the growing tolerance of monastic institutions towards needy people of all ages, and in fact both sexes, being a monastery of such a late date. At least, the monastery there appears to

have been open to anyone, regardless of sex and age, as individuals of all ages and both sexes have been buried there.

It is also worth noting that monasteries were in fact obliged to bury all those who died in their care as patients or guests.²⁸ Thus, taking care of the patients at Skriðuklaustur must have been highly demanding for all of those involved in healing or nursing. A prime example of this demanding work would be with the patients with syphilis; bearing in mind that during the tertiary stage the bacteria causing the disease affects the central nervous system, resulting in serious mental illnesses. The mental affections, and the lesions and wounds that syphilis causes on both skin and bones, would make the individual almost unable to function in a normal manner.

Syphilis in Medieval Iceland

Before the identification of the nine syphilis cases found in the Skriðuklaustur monastic cemetery, the disease was generally not believed to have existed among the inhabitants of Iceland until modern times. However, written sources inform about some barber-surgeons (Icelandic *bartskeri*), who were especially skilled in healing syphilis, coming to Iceland in the early 16th century to heal Icelanders of the disease. Most likely, the barber-surgeons did some exterior operations on their patients, but they may also have used mercury in their healing. The use of mercury was the earliest known treatment for diseases such as syphilis and leprosy during the medieval times. It is known to have been used at the medieval hospital at Øm monastery in Denmark,²⁹ and primary results indicate that it was used in Skriðuklaustur as well.

The most famous surgeon working in Iceland was undoubtedly the German Lasarus Mattheusson, who came thereto at the request of the bishop Ögmundur Pálsson in 1525. For healing 100 Icelanders, he was meant to obtain the farm Skáney in Borgarfjörður, where he lived during his visit. According to the agreements made, all equipment and ointments should be provided by him. Eventually, Skáneyjar-Lassi, as he was called, got the farm, although it does not seem likely that he managed to heal all those he was supposed to heal. Still, while Icelandic scholars have not denied that Skáneyjar-Lassi existed, they believe that in these cases syphilis was most likely being confused with leprosy, tuberculosis (or *scrofula*), scurvy or a mixture of these.³⁰ For example, it has been claimed that when the first Lutheran bishop in Iceland, Gissur Einarsson, got the disease, it was not venereal syphilis but a mixture of leprosy and scurvy.³¹

Generally, venereal or congenital syphilis is hardly mentioned in preserved documents on the medical history of Medieval Iceland. Since syphilis was classified as a venereal disease, it was often associated with promiscuity and deviant living. Because of these associations, it was common to record it as another disease entirely or to blame somebody else for its existence. Following its first outbreak, the term syphilis was coined in the 1520s in Italy, although it did not come into general use until much later. Before that, Italians called it the French disease, but in France it was named the disease of Naples. In England it was named the French disease, as in Italy, but also the Bordeaux disease and the Spanish disease. The Russians called it the Polish disease and the Poles the German disease.³²

How did the disease then reach Iceland so quickly, an island far out in the North Atlantic, at the same time is it spread rapidly among other inhabitants of Europe? In

fact, despite being on the outskirts of Northern Europe, the Icelandic church was in close contact with the Catholic Church on the mainland during medieval times. Many of the instigators of the Icelandic church studied and lived abroad before they obtained important positions on behalf of the church in Iceland, as abbots, priors, or even bishops.³³ The church was, however, not the only way that Icelanders came into contact with the inhabitants of their neighbouring countries. From the 15th century onwards, English, German, Dutch, and, later, Danish traders dominated the trading and fishing in Iceland.³⁴ The pottery found in Icelandic archaeological contexts underlines this, as it is almost exclusively from the regions of Europe that Icelanders were in contact with through trade.³⁵

It is though, in general, difficult to know where the clients of the Skriðuklaustur monastery were from, as all monasteries were obliged to bury those that died in their care, regardless of their age, sex, status or geographical background.³⁶ Bearing this in mind, the clients of Skriðuklaustur monastery could have belonged to any level in the social hierarchy. The nine cases of syphilis, especially the congenital cases described above, show that syphilis may not just have been found amongst foreign fishermen or merchants in Iceland, or the elite of the church, but that it was also common among the general population of Iceland. This is also supported by the age at death of these individuals, which ranges from adolescence to adulthood, supporting the view that they were common people living in Iceland.

The remains of surgical equipment and the medicinal plants found at Skriðuklaustur indicate that patients came to the monastery to get salvation and physical treatment, as was done in the majority of Catholic monasteries during medieval times. This means that the patients with syphilis, or any other illness, may also have gathered at the other monastic institutions in Iceland providing a similar service. The fact that the Skriðuklaustur monastery is the only Icelandic monastic site where evidence of a hospital has been archaeologically excavated can explain why syphilis cases have not been found before from Medieval Iceland.

Some final remarks

The origins of syphilis are not known and its initial spread is poorly understood. Most scholars agree that the bacteria *Treponema* has been bound to humans for millennia but that it became an epidemic around the turn of the 15th century. Until the discoveries were made at the Skriðuklaustur monastery, syphilis was believed to have been first found in Iceland during modern times, despite its extensive outbreak throughout Europe in the late 15th and early 16th centuries. In the assemblage from the site, counting 198 skeletons, the nine cases of syphilis may be interpreted as an indication that the disease had become an epidemic in Iceland in the early 16th century, just as in the rest of Europe.

These recent findings are therefore not only meaningful for the medical history of Iceland, but may also be regarded as an important source of information about contact and communication in a country that is commonly regarded as having been socially isolated from the external world during the medieval times. Last but not least, the findings shed light on the charitable role and function of the monastery at Skriðuklaustur, apparently assisting needy visitors of all ages, and even regardless of whether they were female or male.

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Notes

- 1 Steinsson, ‘Saga munklífis á Skriðu’.
- 2 Hallgrímsdóttir, ‘Húsakostur Viðeyjarklausturs’; Mímisson ad Einarsson, ‘*Ora et labora*’.
- 3 Kristjánsdóttir, *Skriðuklaustur – híbýli helgra manna*.
- 4 Kristjánsdóttir, ‘The Tip of the Iceberg’.
- 5 Harðarson, ‘Klausturgarðar’; Kristjánsdóttir, ‘Skriðuklaustur Monastery – a Medical centre of Medieval Iceland’; and Kristjánsdóttir, ‘Icelandic Evidence for Late-Medieval Hospital’.
- 6 Zoëga, *Fornmeinafræðileg rannsókn á fimm beinagrindum*; Pacciani, *Anthropological Description of Skeletons from Graves No. 4, 62, 63, 65, 66, 67 and 68*; Pacciani, *Anthropological Description of Skeletons from Graves No. 5, 17, 27, 34, 54, 74 and 75*; Pacciani, *Anthropological Description of Skeletons from Graves No. 83, 84, 85, 87, 88, 95, 96, 97 and 99*; Pacciani, *Anthropological Description of Skeletons from Graves No. 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 141, 142, 143, 145 and 146*; Brandt, *Osteological Analysis*; Ricci, *Osteological Analysis*; Kristjánsdóttir and Collins, ‘Cases of Hydatid Disease in Medieval Iceland’; and Collins, *An Osteological Analysis*.
- 7 Kristjánsdóttir and Collins, ‘Cases of Hydatid Disease in Medieval Iceland’; Kristjánsdóttir, ‘The Tip of the Iceberg’, 54–8.
- 8 Kiple, ‘The History of Disease’, 25; Waldron, *Palaeopathology*, 103.
- 9 Waldron, *Palaeopathology*, 103, 106.
- 10 Hackett, *Diagnostic Criteria for Syphilis*; Waldron, *Palaeopathology*, 103, 106.
- 11 Waldron, 106–8.
- 12 Crosby, ‘The Early History of Syphilis: a Reappraisal’; Kiple, ‘The History of Disease’, 31–2; and Waldron, *Palaeopathology*, 104–5.
- 13 Waldron, *Palaeopathology*, 104–5.
- 14 Anderson, et al., ‘Suspected Endemic Syphilis’.
- 15 Buzhilova, ‘Medieval Examples of Syphilis’.
- 16 Mays, Crane-Kramer, and Bayliss, ‘Two Probable Cases of Treponemal Disease’.
- 17 Møller-Christensen, *Æbelholt kloster*, 196–8; Rasmussen, et al., ‘Mercury Levels in Danish Medieval Human Bones’.
- 18 Hutchinson and Weaver, ‘Two Cases of Facial Involvement’.
- 19 Crosby, ‘The Early History of Syphilis: A Reappraisal’; Waldron, *Palaeopathology*, 105; see also cases mentioned earlier from North Carolina in Hutchinson and Weaver, ‘Two Cases of Facial Involvement’; and Mays, Crane-Kramer, and Bayliss, ‘Two Probable Cases of Treponemal Disease’.

- 20 See, for example, Crosby, 'The Early History of Syphilis: a Reappraisal'; Waldron, *Palaeopathology*.
- 21 Kiple, 'The History of Disease', 18.
- 22 Crosby, 'The Early History of Syphilis: a Reappraisal', 218.
- 23 Pacciani, *Anthropological Description of Skeletons from Graves No. 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 141, 142, 143, 145 and 146*, 54–8.
- 24 Rawcliffe, *Leprosy in Medieval England*; Magilton, Lee, and Boylston, 'Lepers Outside the Gate'; and Gilchrist and Sloane, *Requiem. The Medieval Monastic Cemetery in Britain*, 154–6.
- 25 Møller-Christensen, *Æbelholt kloster*, 196.
- 26 See, for example, Møller-Christensen, *Æbelholt kloster*, 190–3; Gilchrist and Sloane, *Requiem. The Medieval Monastic Cemetery in Britain*, 63–6, 72, 205–6; and Metzler, *Disability in Medieval Europe*.
- 27 Møller-Christensen, *Æbelholt kloster*, 136.
- 28 Gilchrist and Sloane, *Requiem. The Medieval Monastic Cemetery in Britain*, 63.
- 29 Shorter, 'Primary Care', 108–9; Rasmussen, et al., 'Mercury levels in Danish Medieval Human Bones'.
- 30 Þorláksson, 'Frá kirkjuvaldi til ríkisvalds', 124; Ísberg, *Líf og lækningar*, 162.
- 31 See Ísberg, *Líf og lækningar*, 162–3.
- 32 Crosby, 'The Early History of Syphilis: a Reappraisal', 218–20.
- 33 Stefánsson, 'Kirkjuvald eflist', 81–5; Sigurðsson, *Det norrøne samfunnet*, 161–76.
- 34 Þorláksson, 'Frá kirkjuvaldi til ríkisvalds', 30–48.
- 35 Sveinbjarnardóttir, *Leirker á Íslandi/Pottery Found in Excavations in Iceland*, 131–2.
- 36 Gilchrist and Sloane, *Requiem. The Medieval Monastic Cemetery in Britain*, 63.

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