



The English sweating sickness of 1485-1551 and the ecclesiastical response

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Abstract

During the 15th and 16th centuries, five epidemics of a disease characterized by high fever and profuse sweating ravaged England. The disease became known as English sweating sickness because it started in England, though it also struck Ireland and mainland Europe. The infectious disease was reportedly marked with pulmonary components, and the mortality rate was estimated to be between 30% and 50%. The evidence of the “sweating sickness” story is medically fascinating and historically noteworthy as to its sudden appearance in 1485 and major disappearance in 1551. This was a period when the Church of England broke away from the Roman Catholic Church; and the then Prince of Wales, Arthur Tudor, died possibly of sweating sickness. The Church played a vital role during those periods: responses were made in the form of treatment (in Germany), ecclesiastical prayers, tailored worship, and devotions during those trying times, and the preservation of fragile records relating to the epidemics.

Key words: English sweating sickness; Hantavirus; Ecclesiastics; Practical theology; *Sudor anglicus*; epidemic.

Introduction

The current COVID-19 pandemic is unprecedented to the modern world, with arrays of restrictions, guidelines, and adjustments to a “new normal.” It is helpful to note that epidemics of plague caused by a virus are not new. One of the historic epidemics is the English sweating sickness from which we can learn.

The English sweating sickness, also referred to as *Sudor Anglicus*, sweating sickness, English sweat, or the sweat, had five major epidemics between 1485 and 1551.^{1,2} Among English locals, it has various names including “the swat called new

acquittance, alias stoupe,” “hote ylles,” the “hote sicknes,” “stopgallant,” and “the posting sweat.”^{3,4} Some people in the 16th century were of the opinion that the disease or a similar one may have been experienced among the Greeks in the siege of Troy (1260BC-1180BC), but there is no further evidence that is suggestive or confirmatory of such.⁵ There are three main classes of information about this disease, the first class being contemporary literary documents, chronicles of assembled references, and letters. The second class is the remarkable and widely cited account by Dr. John Caius in his *A boke or counsell against the*

disease commonly called sweate, or sweating sickness of 1552.⁵ The third primary source class were the parish registers containing death records covering that period.⁶ A further account was written in Latin by Le Forestier, an eyewitness of the first epidemic.^{7,8} This paper describes sweating sickness and explores the historic record for ecclesiastical links and responses to the epidemic.

Historical significance

The English sweating sickness was a turning point in English history. Historically linked to the battle between the armies of Henry Tudor (later king Henry VII, who reigned from 1485 to 1509) and King Richard III (reigned from 1483 to 1485), who lost support among the English people due to his harsh rule. This was in the era where the throne of England was controlled by the Wars of the Roses. To battle King Richard, Henry VII employed mercenaries from France. The invasion force crossed the English Channel on 7th August 1485 landing in Milton Haven, Pembrokeshire, Wales and marched on to England. At Bosworth Field, Leicestershire, England, Henry's army defeated Richard III on 22nd August 1485, a victory that allowed Henry to be crowned as king.² After the Bosworth battle, the new king went to Lincoln, where he caused supplications and thanksgiving to be made for his deliverance and victory, most likely at the Lincoln Cathedral, the world's tallest building between 1311 and 1548.^{9,10} However, it was commonly said among the people that his reign began with a sickness of sweat.⁹ The disease claimed the lives of many people including two Lord Mayors — Thomas Hills and Sir William Stokker, and six aldermen (deputy mayors) within one week.⁹ Henry VII's royal wedding was partly delayed because of the prevalence of sweating sickness. Before the sweating sickness, he made an oath to marry Elizabeth of York on Christmas day of 1483. However, the wedding took place on the 18th January 1486, two years after the oath, no

thanks to the sweating sickness.⁹ In addition, the king's coronation was delayed due to the epidemic.⁴ In 1517, during the third epidemic, Henry VIII (1509-1547) cancelled his Christmas celebrations as the disease affected important people, including Ann Boleyn, the King's second wife, John Colet, Dean of St. Paul's London, Cardinal Wosley, Brian Tuke, the King's treasurer, and the scholar, Erasmus, in 1511.⁴ The fourth epidemic (1528-1529) affected not only England but the rest of Europe.^{2,4} The British Library catalogued the disease (on strip 42 of 195) as part of disasters visited by God on mankind. The sweating sickness was within the category covering the period from the Fall of Adam down to the death of Archduke Ferdinand II of Tirol in 1595.⁴ The epidemic has ecclesiastical significance. On Protestantism, it affected the Marburg colloquy in October 1529, a meeting that attempted to solve doctrinal disputes among Protestants. The horror of the disease must have encouraged the reformers to reach rapid agreement on issues such as trinity, baptism, human governance, and authority, but they were unable to reach an agreement on the nature of the Eucharist. This is reflected in Martin Luther's letter to his wife as quoted in Flood's article: "*sie seind hier toll worden mit Schwei-schrecken, gestern haben sich bei funfzig geleet, deren seind eins oder zwei gestorben.*" The English meaning is, "they have grown mad here with horror of sweat, yesterday there were fifty, of which one or two died."

Clinical features

Contemporary descriptions described the sweating sickness disease onset as rapid, with no sign of warning and coming usually during night or early morning. Chills and tremors follow by high fever and weakness were the first symptoms.² Body perspiration and rash followed and that could be fatal. Heyman *et al.* suggest a mortality rate of 30-50% after considering some contemporary reports where figures vary from 5-90%. Going back to the

contemporary reports on signs and symptoms, Le Forestier reported, “sudden great sweating and stinking with redness of the face and of all the body,” and patients frequently had thirst, high fever, headache, and some black spots.^{7,11} Le Forestier experienced the first epidemic in 1485. Another account in the 16th/17th century from Bacon stated: persistent fever, with no spots or tainted body mass, malign vapour flowing to the heart, affect the circulatory system — “seized vital spirits.”⁹ Sir Francis Bacon was born 10 years after the last major outbreak. Bacon’s report was consistent in relation to high fever but contrasting to the black spots reported by Le Frostier. Caius’ account on black spot states, “*The other which come but by tymes and onely in certain partes, or broken, be not sufficient nor good, but very euill, of whose insufficiency, ij. Notes learne: a swellyng in y partes with a blackenes, and a tinglyng or prickyng in the same.*” Caius witnessed the last major epidemic in 1551. Taking all the accounts together, “spot” on the body is not a major sign of the disease, however some people could have it. A recent review described the autonomic nervous system as the main target with possible pathological involvement at the hypothalamus, serotonergic neurons, autonomic ganglia, peripheral sympathetic nerves, neuroeffector junctions, or eccrine glands.¹² It was reported that the annals of Merton College, University of Oxford, contain records of treatment. Though written in Latin, a sentence from the record reads, “this . . . remedy was found against this pestiferous disease, that the infected person should be covered up warmly, not however excessively so, but covered moderately with clothes for twenty-four hours; for many have been suffocated by having been covered up excessively; let him drink warm beer, let no air get at him.”⁴ It must be noted that the works of Caius contain similar treatments, to which we will not refer further.

Epidemiology and Epidemics

The epidemic appeared to be confined to the summer season; no outbreak was generally disseminated before June, and there were few evidences of the disease after October. Additionally, Dyer parish register research observed “a chain of infection which appears to be very fragile, easily broken to terminate the outbreak or to await further re-infection from outside.”⁶ The disease prevalence was stated by Caius to be among the middle-aged, wealthy men and women.⁵ Considering other evidences including the parish registers, the people who were affected were more diverse than reported from that one account.^{2,5} Heyman’s *et al.*² analysis on the origin of the disease supported the hypothesis that the English sweat was imported from siege of Rhodes (Greece, 1480) by the Turks, who then were responsible for transmission onwards.

There were five major epidemics of sweating sickness mentioned by various articles and described.² The first epidemic was in 1485, first noticed among Henry’s army that fought on Bosworth Field — a civil war between the Houses of Lancaster and York (*see* historical significance). The disease appears to have been known to both parties before the war, but fatal outbreak started after and raged until last day of October 1485. The second epidemic emerged in 1508, lasting from June to October. It was less widespread and less fatal and confined to England. In 1517, an epidemic confined to London occurred around June but was soon overshadowed by the plague in November of the same year. The fourth outbreak (1528) hit particularly hard and extended to the rest of Europe as far as Russia. The sweat sickness was responsible for the high mortality that devastated Europe in 1528-1529, reaching as high as 5% in London. The last major outbreak (1551) was confined largely to England and brought terror as well. Other mention of the sweat is in Colchester, England (1578-1578), Netherlands (1592),

Cornwall, England (1644), and Rottingen, Germany (1802).¹³ Ecological or meteorological triggers have been suggested for the outbreaks because of the irregularities in intervals (23, 9, 11, and 23 years) between the five epidemics.¹⁴ Considering all the epidemics, England was hardest hit and reflective of the name “English sweating sickness.”

“Likely” Causative Organisms

A virus, possibly Hantavirus, is a suggestive causative organism of sweating sickness. It was suggested that sweating sickness was caused by an “old world hantavirus.”^{2,13} Though a more recent review gives clinical comparisons between viruses, a definitive match remains elusive.¹² In any case, the proposal of a viral disease with a rodent reservoir and an arthropod vector usually comes up in articles.^{6,15,16} An unusual hantavirus outbreak in Southern Argentina implicates human-human transmission, a rather uncommon route of transmission.¹⁷ A comparison was made of English sweating sickness to Picardy Sweat, Hantavirus Pulmonary Syndrome (HPS), and Hemorrhagic Fever with Renal Syndrome (HFRS). There is commonality to seasonality — summer, but duration, disease stages, and incubation times are very distinct.² A thesis by Dr. Dyer on the causative agent favours an arbovirus, which retreats to an animal host between epidemics and during winter and then is transmitted to humans via some arthropod vector during spring periods where there are high activities by both host and vector. The outcome of the parish register research also suggested Western England and Welsh marshes as a probable reservoir since the 1551 outbreak started from there, and the first epidemic in 1485 appeared in the same region — possibly in Shrewsbury, en route to Bosworth battlefield.⁶ However, there is an account of possible infection pre-Bosworth battle.² The incubation period could be estimated between 1-44 days using ancient records,² and that is in line

with the incubation time of hantavirus infections. These observations support the likelihood of the causative organism being hantavirus, and the rural areas where there is plenty of food storage and supply should get the most concern.¹⁵

Infectiousness

Parish registers indicate that the sweating sickness could be highly infectious. That a large part of the country was free of infection is a possible indication of previous high-level exposure to the causative organism or mysterious difficulty for a disease to be established in some districts. The registers show some concentration in families, which might indicate transmission by close contact.⁶ It is uncertain if sweating sickness created either temporary or life-long immunity. Cardinal Thomas Wosley, the chaplain of King Henry VIII, suffered four attacks in a month in 1517 and got re-infected again in 1528.¹⁸ It was feared that the epidemic might be a hinderance to the King’s coronation — thankfully, it cleared before the date. Sir Francis Bacon (1561-1626) noted in his book “*History of the reign of King Henry VII:*”

a disease then new: which by the accidents and manner thereof they called the sweating sickness. This disease had a swift course, both in the sick body, and in the time and period of the lasting thereof; for they were taken with it, upon four and twenty hours escaping, were thought almost assured. And as to the time of the malice and reign of the disease, ere it ceased; it began about the one and twentieth of September and cleared up before the end of October, insomuch as it was no hinderance to the King’s coronation, which was the last of October; nor, which was more, to the holding of the parliament, which began but seven days after.⁹

Bacon also noted:

And it appear by experience, that this disease was rather a surprise of nature obstinate to remedies, if it were in time to look unto.” However, his record will rule out the possibility of a haemorrhagic fever: “It was a pestilent fever, but not seated in the veins or humours, for that there followed no carbuncle, no purple or livid spots, or the like.”⁹

The Church Response

As mentioned earlier, the disease was catalogued as part of a disaster from God, but the church also wished that “may God make it turn out well” and even stated that the summer weather aggravated the disease.⁴ In Flood’s article, he stated that “the afflicted doubtless put their trust in the saints and prayer,”⁴ and a tract by Peter Wild give a stern evangelistic warning with the use of Matthew 3:2 as the tract title “repent ye, for the kingdom of heaven is at hand.” Like syphilis, the plague and other diseases of the time were widely interpreted by the church to be a chastisement from God. The contribution of the church may be said to be that of watchfulness — physical and spiritual; spiritual — prayer, worship, devotion; and medical writing of the clinical notes by a religious medical doctor and preservation of fragments of related vital documents. However, it was also reported that the uncertain times in Europe in the 15th century led to fear and superstition with preaching that the “will of God” had brought plagues, earthquakes, floods, droughts, famine, disease, and war to the people.² Religiously affiliated institutions, such as Oxford University, Cambridge University, and universities at Heidelberg, Leipzig, Tubingen, Marburg, Wittenberg, and Rostock were closed for some time, perhaps to break the chain of infection.⁴ Sweating sickness affected the meeting at Marburg that aimed to resolve doctrinal disputes among

protestants. Martin Luther’s letter to his wife contained the statement; “they have grown mad here with horror of sweat, yesterday there were fifty, of which one or two died”⁴ showed the reformers were both horrified and concerned to have ended the Marburg colloquy rapidly and *do no harm further*. As to the church’s contribution to treatment, an English evangelist and reformer, Robert Barnes (or Dr. Anthony Barus, a disguised name in Germany) contributed to the introduction of the “English regimen” into Germany as cure. A description of the regimen given in 1529:

Forbids the use of stifling feather bed and avoidance of any kind of chill, so the patient must be covered up with a blanket sewn to the bed. Take moderate quantity of a warm, but not stimulating drink such as beer, and be refreshed with syrup of roses. Patients were to be kept awake, by talking to them, putting rose water or aromatic vinegar under their noses or rubbing it on their forehead.⁴

A Swedish bishop contributed the following: “The sweat along with other plagues inspired the first vernacular printed book on medicine, the *litil boke* by the Swedish bishop Benedictus Kanuti (Canutus) on the 1486 plague, which gives a graphic description of the sickness’s arrival in 1485.”¹⁹ The graphically illustrated book was reported to have helped people in Sweden understand the outbreak happening in England.

Aside from watchfulness and medical treatment, a prayer against the sweating sickness existed in the English society.¹⁹ In June 1551, a complete liturgy “*A thanks geuing to God used in Christes churche*” was authorised for use nationwide.²⁰ The sudden onset and high fatality of the sweating sickness made it much feared including concern for a re-emergence. Prayer was a vital tool at those times: it invoked the image of the Lord in agony on the Mount of Olives. It was

noted that prayers were offered to invoke Jesus, the “heavenly leche,” and his tormented body as sure protection against the contagion of sin.¹⁹ There was special nationwide worship. The focus of a prayer was thanksgiving to God despite the outbreak of the sweating sickness. In short, *A Thankes Geuing to God Used in Christes Churche* replaced the liturgy in the Book of Common Prayer (BCP).²⁰ The prayer contained in Keio Univ. MS 120X.432.1 is twelve lines (in Latin).¹⁹

*oratio contra infortitatem sudoris
sub tuam protectionem confugimus ubi
infirmi acceperunt virtutem et propter hoc
tibi psallimus dei genetrix virgo: "ora per
nobis beata mater Christi ut liberemur in
praesentia sudore tristi" : oremus Domine
I[es] hu Christe qui nostrarum animarum
pro salute in monte oliveti genibus flexis,
sudorem effudisti concede propitius, ut tuae
dulcissimae matris interventu a magni
sudoris specie pestifera salvemur, omnes
tibi supplicantes sudoris infirmitate ut
vexati per virtutem beatissime Marie
Virginis celebriter liberentur per Christum
dominum nostrum Amen*

*Prayer against the sweating sickness
The weak take refuge under your protection
and because of this they have power to
raise the virgin mother to "pray for us
blessed mother of Christ to be delivered in
the presence of sad sweat."
We pray O Lord Christ who, for the health
of our souls on the Mount of Olives bent
your knees, sweating abundantly, grant
that your sweet mother of intervention pray
through the great deadly perspiration to
find safety, all you who have to beg in
weakness, sweating and worried by virtue
of the Blessed Virgin ceremoniously
delivered to the Christ our Lord, Amen.
(Editor's translation)*

Another response to the epidemics was devotion and coping in such times. Between 1500 and 1539 (following the dissolution of Syon House), many instructional works were written and printed in local languages, including *A Daily Exercise and Experience of Death* by Richard Whitford.¹⁹ The piece was a devotional for coping during the epidemic. This piece may be a forgotten spiritual guide, written during a time of various epidemics. Richard was a Welsh Catholic priest, a friend to scholar Desiderius Erasmus and known for his devotional writings.²¹

Next, let's talk about how the church ensured that there were preserved documents of the epidemic with a focus on the account of a Christian doctor. Dr. John Caius, former president of the Royal College of Physicians and a committed Christian, painstakingly documented his experience of the 1551 epidemic. The archaic English writing of Caius is not like our modern English, but he appears to have three aims. In his words:

I wyll plainly and in English for their better vnderstandynge to whome I write, firste declare the beginnynge, name, nature, and signes of the sweatyng sickenes. Next, the causes of the same. And thirdly, how to preserue men frō it, and remedy them whē they haue it.⁵ [Putting this to modern English]: I will plainly and in English for their better understanding to whom I write, first declare the beginning, name, nature, and signs of the sweating sickness. Next, the causes of the same. And thirdly, how to prevent men from it and remedy them when they have it.

Dr. Caius responded to the pressing need of that time — Christians should also indulge in strengthening the faith of others during the trying times by allaying the fear of the disease in their hearts. Stigmatization or neglect of infected persons should be discouraged among Christians, and they should be willing to give empathy and care

to affected persons (Jas 2:14-17, Is 58:6-12). When we don't know much about the aetiology of a disease, the church sometimes attributes the sufferings to sin. Attributing sinful nature as the cause of the suffering of infected persons encourages stigmatization. In addition, the church as an ecclesiastical body on earth, endowed with God-fearing scientists and researchers who have been gifted with heavenly gifts and revelations from the all-knowing God. They should engage in holistic research founded on best practices mixed with faith, prayer, and diligence in God to bring solution (light) to the darkness brought about by the epidemic (Matt 5:13-16, Is 42:6-9). In the same manner, today's church should emulate the early church in record keeping of epidemic outbreaks as this will assist in dealing with future pandemics. Lastly, Psalm 91 is a text where we can find solace during epidemics. It is about being strong in time of pestilence — “you shall not be afraid of the terror by night, nor of the arrow that flies by day.” The safety in this text goes beyond physical protection and transcends into the eternal; “with long life (eternity) I will satisfy him and show him my salvation.”

Conclusion

Like the sweating sickness, COVID-19 has been viewed, at least during the beginning of the outbreak, as chastisement from God. Heathen or redeemed, we are all affected with the current coronavirus pandemic. Divine punishment or not and being mindful of the past, it is imprudent to regard sweating sickness as an extinct disease. It should be viewed as an epidemic that occurred at comparatively long intervals and that we should strive to understand now for a better response should it or a variant surface in the future. This presentation is by no means exhaustive of what we know of sweating sickness nor of the church's response to the epidemic at various times. More records still need to be explored.

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