



Shakespeare's Non-Violent Deaths, a Diagnostic Analysis

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Abstract

Death was a frequent occurrence in Shakespeare's plays. Copious blood and violence appealed to Tudor audiences. Seventy-five deaths occurred in total, two thirds were violent, but twenty-eight were not violent from a variety of other natural causes. These deaths are analyzed in this article from the diagnostic perspective of twenty-first century pathophysiology.

Introduction

Death was a frequent occurrence in Shakespeare's plays and a frequent occurrence in the Tudor era, especially during the reign of Henry VIII. An abundance of violence and blood attracted Tudor theatre audiences. Seventy-five deaths occurred in total, two thirds were violent, but twenty-eight were not violent from a variety of causes.

Violent deaths followed a mixture of onstage battles and offstage executions. Executions were common during the reigns of the Tudor monarchs. During the reign of Elizabeth I six thousand, one hundred and sixty people were hanged at Tyburn alone, perhaps an improvement of the executions of somewhere between fifty and seventy thousand people during the tyranny of Henry VIII!

Heads of executed traitors were displayed publicly 'pour encourager les autres'. In London this was mainly on the great stone gate on the south end of London Bridge. In Lancastrian times an official Keeper of the heads was required to avoid overcrowding by throwing the older decapitated heads into the Thames!

Understanding of modern medicine is largely absent in Tudor times, though Shakespeare's knowledge of medicine appears increased after his daughter married Dr. John Hall, a Stratford Physician. The Galenic theory of four body humors, though one and a half millennia old, still held sway. The concepts of Paracelsus that disease is due to chemicals were being developed at that time.

The scientific era of medicine does not commence for another two centuries. Of the great London teaching hospitals and medical schools only St Thomas' and St Bartholomew's Hospitals were open in 1600. Westminster Hospital followed in 1719, St George's in 1733 and the late lamented Middlesex Hospital in 1745. The impact of cognitive function on health is deemed much more powerful in the seventeenth than in the twentieth century though it is seen today as equally common and important.

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Shakespeare's Plays and Victims

Measure for measure

1 Ragozine

Ragozine, a fictional character, does not appear in the cast of measure for measure other than his decapitated head and a mention in absentia post-mortem. Claudio is sentenced to death for having sexual intercourse with his betrothed but not yet married partner, Juliet, by Angelo, deputy to Duke Vincentio of Vienna. Isabella, a novice nun and Claudio's sister begs for his life but will not surrender her virginity to Angelo for his life.

Ragozine, a prisoner who looks like Claudio, had just died of a fever in jail. In Act 4, scene 3, the provost states, 'here in the prison, father. There died this morning of a cruel fever one Ragozine, a notorious pirate'. His head is presented to Angelo as false but realistic proof of Claudio's execution.

Ragozine may have died of any febrile condition but Typhus is classically known as the jail fever. Caused by *Rickettsia prowazekii*, and transmitted by the human body louse (*Pediculus humanus corporis*) it has a fatality rate of approximately 40% if untreated.

In 1577 in Oxford, jurors and judges died from infection spread by prisoners in the courts.

Between 1558 and 1625, during the reigns of Elizabeth I and James, one thousand two hundred and ninety two prisoners died of all causes in the jails of the Home Counties. Many of these would have been from jail fever. Typhus would not distinguish the innocent from the guilty, those awaiting a pardon and those waiting execution.

The clinical picture is of fever and flu like symptoms, followed by a generalized rash then meningoencephalitis and death. Though millions have died of typhus throughout history, it is a rare disease except in conditions of unhygienic extreme overcrowding. The disease was rife during the Two World Wars and the years between in Eastern Europe causing the death of many millions.

Love's labor lost

2 The King of France

In Act 5, scene 2, Marcade, a messenger from the French court arrives to inform the French princess that her father, the King of France has died.

'The news I bring is heavy in my tongue. The King your father...'

'Dead for my life', the Princess responds.

No cause is given so old age and natural causes are presumed. Previous mentions of the King say nothing of his health. The princess plans a year of austerity in a hermitage.

Midsummer night's dream

3 Mother

Titania, a fictional queen of the fairies adopts a baby boy whose father was an Indian King and his mother died in childbirth.

Act 2, scene 1, Puck describes the baby as, 'a lovely boy stolen from an Indian King'.

Titania says, '...her womb then rich with my young squire. But being mortal, of that boy did die'.

In Tudor England, one pregnancy in forty or fifty resulted in maternal death. At this time nutritional knowledge and hygiene were minimal. Death could follow toxemia, hemorrhage, puerperal sepsis, obstructed labor and placental problems. Forceps deliveries, intravenous fluids and blood transfusions, hand washing, antibiotics, anesthesia, safe analgesia, relatively safe caesarean sections, even induction of pregnancy with sterile instruments were all in the future. No specific cause of maternal mortality is given for the mother in midsummer night's dream. It could have been any combination of problems.

Winter's tale

4 Hermione

5 Mamillius

King Leontes of Sicilia throws his pregnant wife, queen Hermione into jail accusing her of adultery with King Polixenes of Bohemia implying Polixenes is the father of her unborn child.

Mamillius, the young son of Hermione and Leontes is greatly distressed by this. He appears a melancholy child saying to Hermione, 'a sad tale's best for winter. I have one of sprites and goblins'.

In Act 2, Scene 2, Leontes asks a servant of Mamillius' welfare with the following conversation.

Leontes 'how does the boy?'

Servant 'he took good rest tonight; Tis hoped his sickness is discharged'.

Leontes 'To see his nobleness! Conceiving the dishonor of his mother, He straight declined. Drooped, took it deeply fastened and fixed the shame on't in himself, threw off his spirit, his appetite, his sleep, and downright languished'.

The next mention of Mamillius is his death

Act 3, scene 2, Servant, 'sir, I shall be hated to report it. The prince your son, with mere conceit and fear of the queen's speed, is gone.'

Leontes, 'How! Gone?'

Servant 'is dead.'

Hermione swoons at this news and is taken out by Paulina, who returns a few minutes later to state, 'I say she is dead'.

Leontes description of his son indicates depression and anorexia. Today we aim for a scientific diagnosis and pathogenesis. Twenty-first century detailed knowledge of pathophysiological mechanisms leads us to be sceptical about the less well understood mechanisms of psychosomatic disease. Four centuries ago terms such as hypochondria, hysteria, the spleen, the vapors and dyspepsia in the absence of a physical diagnosis were well accepted causes of disease and even death. Anorexia could have played a major part in Mamillius' death, and Hermione's death after a swoon was not questioned from a pathological viewpoint, an acceptable cause of death in 1600.

The life and death of King John

6 Elinor

7 Constance

When Richard I, the Lion heart, died in 1199 without offspring, the English throne should have passed to the second brother, Geoffrey or the descendants of Geoffrey and his wife Constance of Brittany. Geoffrey had predeceased Richard and his son Arthur was born posthumously in 1187. Richard I nominated his brother John as king as Arthur was only twelve at the time.

Shakespeare's play centre's around Constance's battle to place Arthur on the throne. She becomes increasingly agitated and distraught, particularly when Arthur is imprisoned. Dowager Queen Elinor, wife of Henry II, mother of Richard, Geoffrey and John supports King John.

Constance speaks to Elinor,

'Thou monstrous injurer of heaven and earth! Call not me slanderer; thou and thine usurp the dominations, royalties and rights of this oppressed boy: this is thy eldest son's son,'

Increasingly others think Constance is going mad which she denies, 'I am not mad; too well, and too well I feel the different plague of each calamity.'

Constance's final and best known speech when she fears Arthur is dead portrays her innermost feelings.

'Grief fills the room up of my absent child,

Lies in his bed, walks up and down with me,

Puts on his pretty looks, repeats his words,

Remembers me of all his gracious parts,

Stuffs out his vacant garments with his form;

Then, have I reason to be fond of grief?

Fare you well: had you such a loss as I,

I could give better comfort than you do.

I will not keep this form upon my head,

When there is such disorder in my wit.

O Lord! My boy, my Arthur, my fair son!

My life, my joy, my food, my all the world!

My widow-comfort and my sorrows' cure!

In Act 4, scene 2 a messenger from France informs King John that not only has his mother, Queen Elinor died, but also, "The Lady Constance in a frenzy died three days before: But this from rumors tongue I idly heard - if true or false I know not".

Our twenty-first century adherence to precise pathophysiology would fail to understand the mechanism of her death in frenzy, but it seems quite logical and acceptable in the sixteenth century. Perhaps reading her last speech enlightens us!

Richard II

8 Duchess of Gloucester

9 John of Gaunt

10 Thomas Mowbray

11 Abbott of Westminster

Eleanor de Bohun, widow of the murdered Thomas of Woodstock, 1st Duke of Gloucester, in Act 1, scene 2, talks to John of Gaunt, seeking vengeance against Thomas Mowbray the suspected murderer of her husband.

'The best way is to venge my Gloucester's death.'

Gaunt declines and she is overwhelmed with grief, 'farewell old Gaunt; thy sometimes brother's wife, with her companion grief, must end her life...desolate, desolate, will I hence and die'.

She died on October 3rd, 1399, just after Richard II was deposed, aged thirty-two or thirty-three from grief.

John of Gaunt, third son of Edward III, died of natural causes at the age of fifty-eight. Shakespeare suggests that shame at the disastrous reign of Richard II contributes to his death.

Gaunt says to Richard in Act 2, scene 1, 'Landlord of England art thou now not king'.

Richard threatens execution to which Gaunt replies,

'O, spare me not, my Brother Edward's son, for that I was his father Edward's son; that blood already, like the pelican, Hast thou tapped out and drunkenly caroused: My brother Gloucester, plain well-meaning soul, whom fair befall in heaven amongst happy souls!

May be a precedent and witness good that thou respect's not spilling Edward's blood: Join with the present sickness that I have; and thy unkindness be like crooked age, to crop at once a too long withered flower. Live in thy shame, but did not shame with thee!

These words hereafter thy tormentors are! Convey me to my bed, then to my grave:

Love them to live that love and honor have.'

Thomas Mowbray was banished for life by Richard II. The Bishop of Carlisle in Act 4, scene 1, states that Mowbray spent his time in exile fighting in some holy wars before retiring to Venice, where he 'gave his body to that pleasant country's earth, and his pure soul unto his captain, Christ'. History relates that he died of the plague on 22 September 1399.

The Earls of Kent, Huntingdon and Salisbury met at the house of William de Colchester, the Abbott of Westminster to plan a rebellion against the recently crowned Henry IV and place the imprisoned Richard II back on the throne. The plot failed and the leaders were beheaded without trial. The Abbott was implicated and subsequently died of a guilty conscience. Henry Percy, Hotspur says in Act 5, scene 6, 'the grand conspirator, Abbot of Westminster, with clog of conscience and sour melancholy, Hath yielded up his body to the grave.'

Henry IV

12 Henry IV

Henry dies of a natural but unidentified disease at the age of forty-six. He had a chronic disfiguring skin disease for many years with three acute attacks of some grave illness between 1405 and 1408, during the winter of 1408-09, December 1412, and then finally a fatal bout in March 1413. He had a seizure shortly prior to death and probably others previously.

In Act 4, scene 1, the chief justice says, 'do you know that these fits are with his highness very ordinary'.

Near death the King complains, 'and now my sight fails, and my brain is giddy:'

And 'my lungs are wasted so'. Perhaps just terminal events.

Some authorities suggest syphilis, but this is a century before Columbus returned from America with that disease. Leprosy is suggested, but that would be recognized and be considered God's justice for usurping the throne and therefore displace the 'Divine Right of Kings' ending his reign.

A unifying diagnosis linking chronic skin disease, epilepsy and death is more likely to be found amongst the fungal or autoimmune diseases. *Candida*, *Coccidioides* and *Blastomyces* can all cause skin rashes and colonise the brain causing seizures and death. Systemic lupus erythematosus and variants with antineuronal antibodies can involve skin and brain causing epilepsy and death. These unverifiable conjectures are still associated with death by natural causes in the case of Henry IV.

Henry V

13 Falstaff

14 Doll Tearsheet

Falstaff dies in bed of natural causes having been unwell for some time. The cause of death is not clear but there are several possibilities and pointers. Much of his life is spent in taverns and brothels, raising the possibilities of alcoholism and cirrhosis as well as venereal disease which his mistress Doll Tearsheet clearly has.

Falstaff's urine is examined by his doctor, and 'Sirrah, you giant, what says the doctor to my water?' he asks his page, and the page responds cryptically and ominously, '...The party that owed it, he

may have more diseases than he knew for'.

In Henry V, Act 1, scene 1, Falstaff complains, 'a plague on this gout, it plays the rogue with my great toe'. Hyperuricemia from his obesity and alcohol would be expected perhaps with renal disease as well.

Poins says about Falstaff, 'marry, the immortal part needs a physician, but that moves not him: Though that part is sick: he dies not'.

In Act 2 scene 1, after Henry V rejects the dissolute companions of his misspent youth, Mistress quickly declares, "The king has killed his heart", adding grief to the possibilities.

The hostess adds, 'he is so shaked of a burning quotidian tertian, that is most lamentable to behold', indicating some infectious disease, perhaps the plague, or the sweating sickness of the Tudor period.

In Act 2, scene 3 Pistol declares, 'For Falstaff, he is dead'.

Doll Tearsheet is Mistress quickly friend and Falstaff's favorite prostitute. 'I am meat for your master,' she tells Pistol.

Her venereal disease is diagnosed early in Henry IV, part 2. Act 2, scene 4, Falstaff, 'How now mistress Doll? Hostess, 'sick of a calm', Falstaff, 'as is all of her sect'.

Then Falstaff unable to control his sexual urges says, 'you help to make the diseases, Doll: We catch of you Doll, we catch of you: Grant that, my poor virtue grant that'.

Later in Henry V, Act 5, scene 1, Pistol states that Doll is in 'the powdering tub of infamy', treatment for venereal disease, then 'My Doll is dead in the 'spital from the malady of France', an English euphemism for syphilis.

Syphilis was a common disease during the Tudor dynastic period, though not present during the Lancastrian and Yorkist periods. While it would not have occurred during the reign of Henry IV and V, syphilis would have been very common in Shakespeare's time. Even if he knew that, why let the truth impede a good story!

Henry VI

15 Edmund Mortimer

16 Cardinal Beaufort

Shakespeare's Edmund Mortimer, 1376-1409, is an adult nobleman in the court of Henry IV present when the King discusses the Battle of Homildon Hill, a battle against the Scots in 1402. He dies in Henry VI an old man in prison in 1425 having been jailed for many years as having a better claim to the throne than the Lancastrian Kings. In Act 2, scene 5 near death in Gaol he talks to his Gaolers and Richard Plantagenet, the future Duke of York and father of Edward IV.

'Kind keepers of my weak decaying age, Let dying Mortimer here rest himself, so fare my limbs from long imprisonment; and these grey locks, the pursuivants of death;'

No specific diagnosis is given by Shakespeare beyond old age, and the effects of prolonged imprisonment which may include torture, malnutrition, anhedonia, depression and hypovitaminosis.

Edmund Mortimer, born in 1376, son of Philippa, Countess of Ulster, grandson of Lionel of Antwerp, Duke of Clarence, second surviving son of King Edward III and identified correctly

by Shakespeare as the brother-in-law of Henry 'Hotspur' Percy fits Shakespeare's description but for the fact that he died in 1409 at the siege of Harlech.

Edmund Mortimer was himself thus the great grandson of Lionel, Duke of Clarence, the second surviving son of Edward III, and therefore he had a higher claim to the English throne than Henry IV, who was descended from John of Gaunt, the third son, in the absence of descendants of Richard II and Edward, the Black Prince, son of Edward III.

Edmund has an older brother Roger de Mortimer who is killed in a fight in Ireland at the age of twenty-four, but not before Roger has a son, also Edmund Mortimer, 1391-1425 who Shakespeare conflates with his uncle to produce one character living from 1376-1425.

Holinshed's flawed history may have misled Shakespeare as he was misled with Holinshed's history of Richard III. Edmund, the nephew is imprisoned by Henry IV, but subsequently is a loyal supporter of Henry V.

Most historical sources state that following a dispute with the King's uncle Humphrey, Duke of Gloucester, and his own kinsman, Sir John Mortimer, Edmund Mortimer was "sent out of the way to Ireland" in the autumn of 1424 where he died of plague in 1425 though other sources suggest he died at the siege of Harlech.

Shakespeare portrays Cardinal Beaufort's death being due to guilt over his evil life. Henry Beaufort, the second son of John of Gaunt and his mistress, Katherine Swynford was consecrated a bishop in the Catholic Church at the age of twenty-three, but not for a priesthood of poverty, chastity or humility. He rose to become one of the most powerful and wealthy men in England as Lord Chancellor with all the Machiavellian political infighting to maintain his preeminent power during the minority of Henry VI. He schemed against Henry IV, he was involved in the death of the Duke of Gloucester and of Joan of Arc, and he appears to have had at least one illegitimate child. History describes him as ambitious, greedy, haughty, and impetuous.

On his death bed he has a conversation with Henry VI and the Earls of Warwick and Salisbury in which Beaufort offers England's treasure for his life. The King says it is a sign of an evil life to fear death so much and Beaufort cannot indicate that he hopes to go to heaven.

Act 3, scene 3, King Henry, 'How fares my lord? Speak, Beaufort, to thy sovereign.'

Cardinal, 'If thou be'st Death, I'll give thee England's treasure, enough to purchase such another island, so thou wilt let me live and feel no pain.'

King Henry, 'Ah, what a sign it is of evil life, where death's approach is seen so terrible!

Warwick, 'Beaufort, it is thy sovereign speaks to thee.'

Cardinal, 'Bring me unto my trial when you will. Died he not in his bed? Where should he die? Can I make men live, whe'er they will or no? O, torture me no more! I will confess.

Alive again? Then show me where he is. I'll give a thousand pound to look upon him.

He hath no eyes! The dust hath blinded them. Comb down his hair. Look, look. It stands upright, like lime-twigs set to catch my winged soul. Give me some drink, and bid the apothecary bring the strong poison that I bought of him.'

King Henry, 'O, Thou eternal mover of the heavens, look with a gentle eye upon this wretch! O, beat away the busy meddling fiend that lays strong siege unto this wretch's soul,

And from his bosom purge this black despair!

Warwick, 'See how the pangs of death do make him grin!'

Salisbury, 'Disturb him not. Let him pass peaceably.'

King Henry, 'Peace to his soul, if God's good pleasure be! Lord Card'nal, if thou think'st on heaven's bliss, hold up thy hand; make signal of thy hope. The Cardinal dies. He dies and makes no sign. O, God forgive him!

Warwick, 'So bad a death argues a monstrous life.'

Richard III

17 Edward IV

18 Queen Anne

King Edward IV arrives on stage in Richard III, Act 2, scene 1, surrounded by his courtiers, according to the scene setting 'sick'. His dying aim being to unite his court to assist his twelve year old son, Edward, Prince of Wales to ascend the throne uneventfully and unchallenged.

The King states, 'At peace my soul shall part to heaven since I have made my friends at peace on earth'.

Hastings, Rivers, Buckingham, Dorset, Gloucester and Queen Elizabeth swear mutual friendship and support. Edward exits to die off stage and not to be seen again.

In Act 2, scene 2, the King's mother, the Duchess of York, 'do lament the sickness of the King', and shortly Queen Elizabeth enters to announce, 'Edward my lord, thy son is dead'.

Shakespeare does not offer a cause of death, though in Act 1, scene 1, Hastings says, 'The King is sickly, weak and melancholy, and his physicians fear him mightily.' Richard of Gloucester then adds, 'O, he hath kept an evil diet long, and overmuch consumed his royal person.'

History states that the great warrior king, victor in the front line of many battles, had become grossly overweight and unfit. He went fishing in bad weather on the Thames, caught a respiratory infection and succumbed, perhaps with influenza, perhaps compounded by diabetes.

Queen Anne was the daughter of Warwick the Kingmaker, widow of Edward of Lancaster, killed at the battle of Tewksbury, and wife of Richard III. Richard marries her after her first husband is slain and they have a son, Edward of Middleham who does not appear in Shakespeare's Richard III. However when young Edward dies on 9/4/1484 and Richard has no heir and apparently a barren wife he considers his position.

According to Shakespeare who presents him as the consummate villain who murders all in his path to the throne, he plots to remove Anne.

In Act 4, scene I, Anne says, 'Besides he hates me for my father Warwick and will no doubt be shortly rid of me'.

In scene 2, Richard orders Catesby, 'Rumor it abroad that Anne my wife is grievous sick: I will take order for her keeping close', and

repeats, I say again give out that Anne my queen is sick and like to die. About it.' Then, 'I must be married to my brother daughter'.

Later in scene 2, Richard says, 'And Anne my wife hath bid this world good night.'

This is interpreted as Anne being killed, probably poisoned on Richard's orders. History suggests that theirs was a loving relationship and Richard was devastated when Anne dies of some chronic wasting disease, probably tuberculosis.

Henry VIII

19 Richard Pace

20 Thomas Wolsey

21 Catherine of Aragon

Richard Pace like Ragozine in 'Measure for Measure', does not appear in the cast of Henry VIII and is only mentioned after death in Act 2, scene 2 as dying of insanity, but unlike Ragozine, he is not a fictional character.

Cardinal Campeius 'My Lord of York, was not one Doctor Pace in this man's place before him?'

Cardinal Wolsey, 'Yes, he was'.

Cardinal Campeius, 'Was he not held a learned man?'

Cardinal Wolsey, 'Yes, surely'.

Cardinal Campeius, 'Believe me, there's an ill opinion spread then even of yourself, lord cardinal'.

Cardinal Wolsey, 'How! Of me?'

Cardinal Campeius, 'They will not stick to say you envied him, and fearing he would rise, he was so virtuous, kept him a foreign man still; which so grieved him, that he ran mad and died.'

Cardinal Wolsey, 'Heaven's peace is with him! That's Christian care enough: for living murmurers. There are places of rebuke. He was a fool.'

Richard Pace (1482-1536) was born in Hampshire and educated at Winchester College, and the universities of Padua and Oxford. He entered ecclesiastical orders and the service of Cardinal Wolsey as a secretary employed in diplomacy and espionage. Wolsey accused him of being a French spy and imprisoned him in the Tower where he became violently insane and subsequently died.

Mental health problems, particularly grief, sadness and insanity are portrayed frequently by Shakespeare, perhaps best known in the insanity of Ophelia and King Lear and the suicidal thoughts of Hamlet. Shakespeare appears well informed on the subject at a time of limited understanding of psychiatry. Melancholy was the collective term for mental diseases as described in the contemporary texts, 'Treatise on Melancholy' by Timothy Bright of St Bartholomew's in 1586 and 'Anatomy of Melancholy' by Robert Burton in 1621.

The etiology of Pace's insanity beyond being due to imprisonment is not discussed. He was around the age of fifty when he became ill, too old for schizophrenia, too young for senile dementia. Pellagra due to niacin deficiency if recognized would be accompanied by diarrhea and dermatitis. Syphilis was common in Tudor times and Pace's clinical picture of progressive mental deterioration was compatible with the general paralysis of the Insane of tertiary syphilis. Holy

orders have never been an effective prophylactic against sexually transmitted disease, unwanted pregnancy and sexual abuse.

Thomas Wolsey (1473-1530) died of natural causes aged fifty-seven. He rose to become Lord Chancellor under Henry VIII, but like all men promoted to high office he ultimately fell from Grace. The King's council was composed of a series of jealous and optimistic rivals eager to pull down the tallest poppy by feeding Henry's tyrannical paranoia as he sinks into increasing cerebral dysfunction, perhaps from traumatic brain injury, perhaps dementia or McLeod's syndrome. As Thomas Cromwell says in Hilary Mantel's novel, the mirror and the light, 'your whole life depends on the next beat of Henry's heart.'

Wolsey is heartbroken by the king's sudden rejection of him in favor of others. He is arrested at Cawood in North Yorkshire, accused of treason and ordered to London by Henry Percy, 6th Earl of Northumberland. In great distress, he set out for the capital with his personal chaplain, Edmund Bonner. He fell ill on the journey and died at Leicester well aware that he is about to die. Wolsey would have been only too well aware of the King's brutality. Some fifty to seventy thousand people were executed during his reign of under forty years, and only the luckier one was beheaded expertly with a single stroke! Many were burnt at the stake, or hung, drawn and quartered!

Act 3 scene 2, 'my high-blown pride at length broke under me and now has left me,

Weary and old with service, to the mercy of a rude stream, that must for ever hide me.

Vain pomp and glory of this world, I hate ye:' and finally, 'Farewell The hopes of court! My hopes in heaven do dwell'.

Wolsey dies just before Catherine of Aragon who hears more details of his death from her jailor.

Act 4 scene 2

Katharine, '.....Didst thou not tell me, Griffith, as thou led'st me,

That the great child of honor, Cardinal Wolsey, Was dead?' 'Prithee, good Griffith, tell me how he died: If well, he stepped before me, happily for my example.'

Griffith, 'Well, the voice goes, madam: For after the stout Earl Northumberland

Arrested him at York, and brought him forward, as a man sorely tainted, to his answer, he fell sick suddenly, and grew so ill he could not sit his mule. At last, with easy roads, he came to Leicester, lodged in the abbey; where the reverend abbot, with all his covenant, honorably received him; To whom he gave these words, 'O, father abbot, an old man, broken with the storms of state, is come to lay his weary bones among ye; Give him a little earth for charity!'

So went to bed; where eagerly his sickness pursued him still: And, three nights after this, about the hour of eight, which he himself foretold should be his last, full of repentance, continual meditations, tears, and sorrows, he gave his honors to the world again, his blessed part to heaven, and slept in peace.'

The Tudor chronicler Edward Hall provides further details. 'When the cardinal saw the captain of the guard he was much astonished and shortly became ill, for he foresaw some great trouble, and for that reason men said he willingly took so much strong purgative that his constitution could not bear it. But Sir William Kingston comforted

him, and by easy journeys he brought him to the Abbey of Leicester on November 27th, where through weakness caused by purgatives and vomiting he died the second night following, and is buried, in the same Abbey.

Wolsey lived in a "non-canonical" marriage for around a decade with a woman called Joan Larke of Yarmouth, Norfolk. The edict that priests, regardless of their functions or the character of their work, should remain celibate had not been wholeheartedly accepted in England. Wolsey subsequently had two children, both before he was made bishop: A son, Thomas Wynter, and a daughter, Dorothy. Nothing else suggests promiscuity and venereal disease.

His cause of death therefore appears a mixture of old age for that time, sudden catastrophic fall from the highest office of the land with resultant anxiety and depression, and an overdose of purgatives and emetics.

Catherine of Aragon dies a non-violent death at the age of fifty imprisoned by Henry VIII at Kimbolton Castle. Aware of her impending death, she wrote her will the month before. In Act 4, scene 2 she confers with her custodian, hearing also that Wolsey has died.

Griffith, 'How does your grace?'

Katharine, 'O Griffith, sick to death! My legs, like loaden branches, bow to the earth, willing to leave their burthen. Reach a chair: So; now, methinks, I feel a little ease. Didst thou not tell me, Griffith, as thou led'st me, that the great child of honor, Cardinal Wolsey, Was dead?'

Later, Katharine, 'I thank you, honest lord. Remember me. In all humility unto his highness: Say his long trouble now is passing out of this world; tell him, in death I blessed him, for so I will. Mine eyes grow dim. Farewell, My lord. Griffith, farewell. Nay, patience, you must not leave me yet: I must to bed; Call in more women. When I am dead, good wench, Let me be used with honor: strew me over with maiden flowers, that the entire world may know I was a chaste wife to my grave: embalm me, then lay me forth: Although unqueened, yet like A queen, and daughter to a king, inter me. I can no more.'

Beyond dying of natural causes, Shakespeare does not offer a diagnosis of her terminal condition. The Boleyn haters suggest she was poisoned by Anne Boleyn. The chandler, originally head of the medieval household office responsible for candles, not a physician experienced in post-mortem examinations, who embalmed her body, reported a black growth on her heart believed at the time to have been caused by poisoning. Today pathologists believe the report of black growths were more likely to have been deposits of malignant melanoma.

Contrary to the general perception of limited sunshine in England, melanotic skin cancer is the fifth most common cancer in the UK with about sixteen thousand new cases and over two thousand, three hundred deaths each year. Over recent years, skin cancer has become much more common in the UK. This increase in skin cancers in UK is thought to be the result of increased exposure to intense sunlight while on holiday abroad, such as on the Costa Brava, but Catherine did live in Spain until she was sixteen.

Troilus and Cressida

22 Pandarus

Shakespeare's Pandarus is a bawd, a pimp and a frequenter of brothels who dies of syphilis though the disease was not known to

be present in Europe for another two and a half millennia after the Trojan War.

Pandarus encourages his niece to go to bed with Troilus in act 3, scene 2, ‘...I will show you a chamber with abed; which bed, because it shall not speak of your pretty encounters, press it to death: Away!’

Pandarus continues in Act 3, scene 1, with allusions to sexual intercourse and venereal disease from which he is mortally ill.

‘..For, O, love's bow shoots buck and doe: The shaft confounds, not that it wounds, but tickles still the sore. These lovers cry Oh! Oh! They die!’

Next time he meets Cressida he asks, ‘How now, how now! How go maidenheads?’

Finally in the last lines of the play, Act 5, scene 10, he is dying with syphilis but intends to infect a few others before he dies.

‘A goodly medicine for my aching bones! O world! World! World! Thus is the poor agent despised! Full merrily the humble-bee doth sing, till he hath lost his honey and his sting; and being once subdued in armed tail, sweet honey and sweet notes together fail.

Good traders in the flesh, set this in your painted cloths. As many as be here of pander's hall,

Your eyes, half out, weep out at Pandar's fall; or if you cannot weep, yet give some groans,

Though not for me, yet for your aching bones. Brethren and sisters of the hold-door trade,

Some two months hence my will shall here be made: It should be now, but that my fear is this, some galled goose of Winchester would hiss: Till then I'll sweat and seek about for eases, and at that time bequeath you my diseases’.

Hold-door trade means the trade of a bawd or pimp, galled means covered in sores, usually syphilitic, and the Winchester Geese were prostitutes so named after the Bishop of Winchester who thrived taxing their immoral earnings!

The historical Pandarus, a Lycian, the son of Lycaon, is a warrior and an archer in Greek legend. In Homer's Iliad, Book IV, Pandarus breaks the truce between the Trojans and the Greeks by treacherously wounding Menelaus, the king of Sparta and is ultimately slain in battle by the warrior Diomedes.

Romeo and Juliet

23 Lady Montague

Lady Montague is a fictional character in Romeo and Juliet. She is the wife of lord Montague and the mother of Romeo Montague. She has a small speaking part in the play appearing in act one. She dies at the end of the play in Act 5 scene 3 from grief over Romeo's exile over the death of Tybalt.

Lord Montague says, ‘Alas, my liege, my wife is dead tonight. Grief of my son's exile hath stopped her breath. What further woe conspires against mine age?’

King Lear

24 Earl of Gloucester

King Lear is a largely fictional tale based in England in around 800 BC, and the unfortunate Earl of Gloucester is a fictional character who

dies of joy. After a long storey of betrayal, exile and torture, Gloucester is overwhelmed with joy to encounter Edgar, his legitimate son who lived as a beggar in exile, when he returns home.

Edgar, Act 5, Scene 3, ‘Told him my pilgrimage. But his flawed heart (Alack, too weak the conflict to support!) Twixt two extremes of passion, joy and grief, burst smilingly.’

Othello

25 Brabantio

Brabantio is a fictional Venetian senator in Othello who dies of grief. When his daughter Desdemona marries Othello he is distraught, act 1 scene 3, ‘nor doth the general care take hold on me, for my particular grief Is of so flood-gate and o'er bearing nature that it engulfs and swallows other sorrows and it is still itself.’

Later in Act 5 scene 2, just after Iago stabs Desdemona, Brabantio's brother Graziano tells of his death from grief, ‘Poor Desdemona! I am glad thy father's dead: Thy match was mortal to him, and pure grief shore his old thread in twain.’

Anthony and Cleopatra

26 Fulvia

27 Domitius Enobarbus

Fulvia (83 BC - 40 BC) was an aristocratic female Roman politician, important for her marriages to Publius Clodius Pulcher, Gaius Scribonius Curio and Mark Anthony, but also important in her own right. She was the first Roman non-mythological woman to appear on Roman coins.

She and Mark Anthony had a falling out, he over her involvement in the Perusine War in which she commanded legions, she over his involvement with Cleopatra. She was banished to Sicily near Corinth where she fell sick and died of an unknown but acute illness.

Anthony is informed of her death in Act 1, scene 2

Mark Anthony, ‘what are you?’

Second messenger, ‘Fulvia thy wife is dead.’

Mark Anthony, ‘where died she?’

Second messenger, ‘in Sicily: Her length of sickness, with what else more serious importeth thee to know, this bears’.

Mark Anthony is given a letter but no further details of Fulvia's death are given.

Mark Anthony is initially content, ‘there's a great spirit gone! Thus did I desire it:’

Enobarbus considers the death of a wife would only be unfortunate if a replacement could not be found immediately! ‘Why, sir, give the gods a thankful sacrifice. When it pleaseth their deities to take the wife of a man from him, it shows to man the tailors of the earth, comforting therein, that when old robes are worn out, there are members to make new. If there were no more women but Fulvia, then had you indeed a cut, and the case to be lamented. This grief is crowned with consolation. Your old smock brings forth a new petticoat, and indeed the tears live in an onion that should water this sorrow.’

An acute death in a forty-three year old lady in 40 BC is most likely to be due to infection. Her last of five children had been born

three years earlier and another pregnancy seems unlikely. Anthony may have wished her poisoned though there is no reference to that.

Enobarbus subsequently shows more sensitivity and dies himself of a broken heart. From being Antony's most devoted friend, he deserts Antony when Antony is blinded by an all-consuming infatuation with Cleopatra and is losing the war.

Enobarbus is overwhelmed with guilt and grief by his betrayal as revealed in his speech in Act 4, scene 10, 'O sovereign mistress of true melancholy, the poisonous damp of night disponge upon me, that life, a very rebel to my will, may hang no longer on me. Throw my heart against the flint and hardness of my fault, which being dried with grief, will break to powder, and finish all foul thoughts. O Anthony, Nobler than my revolt is infamous, forgive me in thine own particular, but let the world rank me in register a master-leaver, and a fugitive. O Anthony! O Anthony!

At this point he falls dead, some think 'throw my heart against the flint and hardness' implies falling on his sword though grief led to his death.

Cymbeline

28 Mother of Posthumus

The mother of Posthumus Leonatus dies in childbirth before the start of Cymbeline, but she and his father appear in Act 5, scene 2 as ghosts to Posthumus when he is sleeping in jail. She says, 'Lucina lent not me her aid, but took me in my throes; that from me was Posthumus ript, came crying amongst his foes, a thing of pity!'

Lucina was an alternative name for the goddess Juno, and sometimes for Diana, the goddesses of childbirth who safeguarded the lives of women in labor.

Summary

Causes of death,

History adds little to Shakespeare's theatrical causes of death. History gives plague as the cause of Mowbray's death while Shakespeare gives no cause. An excess of purgatives and emetics may have contributed to Wolsey's death. Unsurprisingly the major difference between Shakespeare's show business and history is in Richard III. Shakespeare's play was derived from Tudor historians, Thomas Moore, Hall and Holinshed and alleges Richard or his agent poisoned Anne, while history believes she had some chronic wasting disease, possibly tuberculosis.

The four listed below as syphilis are two highly probable and two possible.

1. Extreme emotion (12).

Grief (8) - Mamillius, Hermione, Eleanor de Bohun, the Duchess of Gloucester, Brabantio, Lady Constance, Thomas Wolsey, Lady Montague, Enobarbus.

Guilt (2) - Abbott of Westminster, Cardinal Beaufort

Joy - Earl of Gloucester

Shame - John of Gaunt

2. Childbirth (2)

3. Syphilis (4) - Doll Tearsheet, Pandarus, Richard Pace, Falstaff

4. Infection (4) - Ragozine typhus, Mowbray plague, Queen Anne

TB, Fulvia.

5 Natural causes (6) - Edward IV, the King of France, Henry IV, Catherine of Aragon, Elinor, Edmund Mortimer

Discussion

There is little to add from a diagnostic or pathophysiological basis to the deaths from syphilis, other infections, childbirth and natural causes. Ironically syphilis may have been introduced to Scotland and Tudor England by the last Yorkist pretender, Perkin Warbeck. Examination of seventeenth century skeletons at St Thomas' hospital revealed syphilitic bone lesions in 13% of skeletons. Cerebral, neurological and cutaneous disease would have been infinitely more common than bone disease in Shakespeare's time. The Yorkist's final revenge on the Tudors?

The major question posed by Shakespeare's plays is whether extreme emotion can cause sudden death as deemed quite acceptable in Tudor times but seems less tenable in a scientific era.

Even Brabantio had doubts in Act 1, scene 3 of Othello, 'But words are words; I never yet did hear that the bruised heart was pierced through the ear.'

Through the 19th and most of the 20th century stress was something to get over, 'pull you together with a traditional British stiff upper lip!' Illness caused by stress indicated a character defect!

However in the last three decades with the aid of modern diagnostic modalities, electrocardiography, echocardiography, coronary angiography, interrogation of implanted defibrillators, genetic studies, electrophysiological studies and personal diaries, opinion has changed.

Cardiac events including cardiac failure, arrhythmias, cardiac arrest and sudden death can occur with emotional stress, not only in those with known cardiac problems, but also in those with occult diseases or even in those with totally normal hearts.

The Australian End Unexplained Cardiac Death (EndUCD) study reviewed the cases of five hundred Australian and New Zealanders aged 1 to 50 who died suddenly. Overt cardiac disease was detected in sixty percent at autopsy, coronary artery disease (24%), inherited cardiomyopathies (16%), myocarditis (7%) and aortic dissection (4%).

The remaining forty percent had a normal autopsy with no detectable underlying cardiovascular disease. Genetic analysis revealed that one in four of this group had a genetic mutation predisposing to cardiac arrest.

An increase in sudden deaths can be precipitated by traumatic events. In 1994 sudden cardiac deaths increased six-fold by the Northridge earthquake in Los Angeles, there was even an increase in sudden cardiac deaths in England on June 30th, 1998 immediately following the loss by England to Argentina in a in a penalty shoot-out World Cup finals soccer match.

The interrogation of implanted cardioverter defibrillators allows assessment of the effects of stress. Following the World Trade Center attacks on September 11th, 2001 one center in Manhattan reported an increase in ICD shocks while only seven out of two hundred patients (3.5%) had ventricular arrhythmia in the thirty days preceding the attacks, sixteen patients (8%) experienced ventricular arrhythmia in the following week, nearly a tenfold increase.

Another ICD study showed diary entries of anger, 3-5/5 on a Likert scale, was five times more likely to provoke a shock able arrhythmia and those were more likely to be polymorphic.

The availability of junior doctors in hospitals is taken for granted regardless of the hours worked and level of fatigue. A century ago, house doctors in London had one afternoon off duty per month. Half a century ago overtime, time and a tenth, was paid after one hundred and six hours per week. A weekend on-call in UK lasted eighty hours with hopefully a little sleep.

Little surprise then that a study of medical house officers wearing Holter monitors while on call when just awoken from sleep than when resting had a longer QT interval related to heart rate, predisposing to potentially fatal arrhythmias.

Conduction of the normal electrical impulse through the heart is *via* ion channels promoting flow of sodium, potassium, chloride and calcium ions. The presence and importance of these channels only became apparent in the last decade of the 20th century. Their function can be impaired by drugs or the more than 400 genes that encode ion channels or apparently now excess adrenaline and emotion.

These genetic defects known as channelopathies may be detectable on an ECG such as the Brugada syndrome or only detectable with electrophysiological studies. The first indication of the gene mutation in a family may be the sudden death of a top class athlete and a normal autopsy, a possibility increased by a surge of emotions.

Recent knowledge also reveals sudden cardiac death can occur with emotional stress without underlying cardiac disease as occurs with Takotsubo Cardiomyopathy. Takotsubo cardiomyopathy was first described in Japan in 1990. There is a sudden onset of temporary weakening of the cardiac muscle following significant physical or emotional stress. The pathophysiology is not well understood, but a sudden massive stress related surge of the catecholamine's, adrenaline and norepinephrine causes stunning of the myocardium and clinical cardiac failure. While recovery is usual about one in twenty cases are fatal.

Attributing the Earl of Gloucester's death in King Lear to joy stretches credulity even further, however Takotsubo cardiomyopathy

is not isolated to cases of grief. One large series of four hundred and eighty-five cases found twenty were precipitated by the emotional effect of spectacularly happy events.

Another genetic cardiac disorder that can be associated with sudden death is Catecholaminergic Polymorphic Ventricular Tachycardia (CPVT). Arrhythmias can occur during exercise or at times of emotional stress; the disease is caused by genetic mutations affecting proteins that regulate the concentrations of calcium within cardiac muscle cells. It is thought to affect as many as one in ten thousand people and is estimated to cause 15% of all unexplained sudden cardiac deaths in young people. The condition was first recognized in 1960, and the underlying genetics were described in 2001.

So here are twenty-first century pathophysiological explanations of Shakespeare's sudden deaths from grief, guilt and euphoria. Grief can indeed fill up an empty room and a grave. The medical profession was just four centuries later than the bard in believing that this can occur!

In conclusion Shakespeare's theatrical but nonviolent deaths align well with the popular timeless thespian themes of high emotion, grief, guilt, shame and joy, tragedy in childbirth, plagues, poisoning and sexual promiscuity.

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