



## Historical Note

# The demise of Archbishop Wolf Dietrich – A historical note on a fatal status epilepticus documented at Salzburg in 1617



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## ABSTRACT

**Introduction:** Wolf Dietrich of Raitenau (WD) ruled the archiepiscopal Salzburg from March 2nd 1587 to December 17th 1611. He was condemned by his successor Archbishop Markus Sittikus of Hohenems to spend his last years imprisoned at the Fortress Hohensalzburg, where he died on January 16th 1617. This historical note describes the causes of his death.

**Materials and methods:** The original Latin handwriting, including the detailed medical history and the autopsy of the Archbishop's body performed by his personal physician, was analyzed in conjunction with historical handwritings provided by St. Peter's Abbey, Salzburg handwriting assigned to Markus Sittikus.

**Results:** Wolf Dietrich of Raitenau had his first well-documented left hemispheric stroke in winter 1604/05. He had palsy of his right arm, was unable to write, and, therefore, used a stamp instead of his signature until October 1605. After another stroke, right hemispheric in origin with persisting palsy of his left arm [*“leva corporis pars iam pridem simili ex apoplectico assultu in paralyisin resoluta”*], he developed symptomatic epilepsy with recurring seizures [*“epileptico insultu quo etiam alias correptus est”*].

On January 15th 1617, he suffered from a secondarily generalized convulsive status epilepticus [*“toto corpore convellitur epileptico insultu”*] with stertorous breathing and distortion of his face [*“spuma stertore insigni faciei perversione”*] and was unconscious for 8 h. He recovered from coma and showed dysphagia, buccofacial apraxia [*“abolitam diglutiendi facultatem”*], reversible speech disturbance [*“accisa etiam verba loqui”*], and left-sided hemiplegia [*“leva corporis pars... immobilis prorsus est reddita”*]. The following day, he had speech disturbances, and he died at noon.

His autopsy showed large but intact liver [*“hepar magnum sanum”*] and heart [*“cor magnum in quo lapsus nullus”*]. There was intrapulmonary mucus [*“pituita imbutus”*], and part of the lungs adhered to its pleura. He had five kidney stones and a partly cirrhotic spleen. The cause of his death was assumed to be intracerebral [*“causa mortis in capite requienda fuisset”*].

**Discussion:** The terminal suffering of Wolf Dietrich of Raitenau is the first witnessed case report on a fatal status epilepticus in Salzburg. Most likely, he suffered from vascular epilepsy due to a right hemispheric stroke, leading to status epilepticus with left-sided Todd's palsy and speech disturbances. An acute symptomatic etiology of this disease cannot be ruled out, as for religious reasons, the Archbishop's brain was not autopsied.

**Conclusion:** Meticulous medical reporting including autopsy was already available in Salzburg in 1617, and the symptomatic etiology of epilepsy was diagnosed correctly.

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**Abbreviations:** WD, Wolf Dietrich of Raitenau; SE, Status epilepticus.

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## 1. Introduction

Wolf Dietrich of Raitenau (WD) was born on March 26th 1559. He was one of the most influential Catholic Archbishops (Fig. 1) and ruled Salzburg from 1587 to 1611. He lived together with his mistress Salome of Altenau and their 15 children.



**Fig. 1.** Wolf Dietrich of Raitenau by Kaspar Memberger, Salzburg 1589, © Salzburg Museum.

His failure to live a celibate life and the conflict on the salt mines between Bavaria and Salzburg were the reasons for his imprisonment on December 17th 1611. He was condemned by his successor Archbishop Markus Sittikus of Hohenems to spend his last years at the Fortress Hohensalzburg, where he died on January 16th 1617.

His medical history was documented by his personal physician Vincentius Cratinus, who executed his autopsy on behalf of Markus Sittikus and the Chapter of Salzburg.

## 2. Material and methods

The personal physician's original Latin handwriting, including the medical history and the autopsy report of the Archbishop's body, was translated (GK, ET) and interpreted in conjunction with historical handwritings provided by St. Peter's Abbey, Salzburg; handwriting assigned

to Markus Sittikus; Claudius Galen's Commentary III on Hippocrates' book IV; and historical records of the archives of the Institute for Applied Geographics (*Landeskunde*) Salzburg and the University of Salzburg.

## 3. Results

Wolf Dietrich of Raitenau had his first well-documented left hemispheric stroke in winter 1604/05 with palsy of his right arm. He was not able to write and used a seal instead of his signature from June to October 1605 [1].

He realized his own mortality and tried to serve his heirs. He commissioned the construction of the castle of *Altenau*, today called *Mirabell*, for his mistress and their children. The marble inscription placed above the castle's entrance is now placed at the Faculty of Law, University of Salzburg. Its text clearly describes his health condition and intentions (Fig. 2).

Later, he suffered from another stroke, which was right hemispheric in origin with palsy of his left arm [*leva corporis pars iam pridem simili ex apoplectico assultu in paralyisin resoluta*] and recurring symptomatic epileptic seizures [*epileptico insultu quo etiam alias correptus est*] [2].

On January 15th 1617 he suffered from a secondarily generalized convulsive status epilepticus (SE) [*toto corpore convellitur epileptico insultu*] with stertorous breathing, salivation, and facial distortions [*spuma stertore insigni faciei perversione*] (Fig. 3) and was unconscious for exactly 8 h. He recovered from coma and showed speech disturbances [*accisa etiam verba loqui*], buccofacial apraxia, dysphagia [*abolitam diglutiendi facultatem*], and a complete left-sided hemiplegia [*leva corporis pars... immobilis prorsus est reddita*] [2] (Fig. 4).

Markus Sittikus described, in a letter addressed to WD's brother, speech disturbances after the generalized convulsions [*fräßig angegriffen*] but noted that he completely recovered from them that night [*die Sprach, wie auch den Verstand völlig widerumben erlangt*] [3], although hemiplegia, dysphagia, and buccofacial apraxia persisted. Liquor made of oriental pearls and other medications were administered to suppress the status [2].

The next day, WD's speech was impaired again [*loquela amplius impediti cepit*], and he died at noon that same day [2].

His autopsy was performed by his personal physician and witnessed by several physicians, natural scientists, politicians, and representatives of cleric dignity [2].

His body was obese and unviolated. His limbs were emaciated and covered with ulcers [*Corpus ... symmetricum se exhibuit et pingue,*



**Fig. 2.** Marble inscription, decorating the entrance at the Castle of Altenau, nowadays placed at the Faculty of Law, University of Salzburg, 2nd floor, room "Wolf Dietrichs Ruh". © Gudrun Kalss.

"Raitenauiae stirpis divino e munere princeps, ad rapidas salzae praetereuntis aquas, impatiens oculi et spirans magis ardua quondam; nunc, ubi morbus corpore deficio: has tactas aedes fessus, portumq; siletem hunc mihi, semestri tempore, constituo."

"born in the house of Raitenau, sovereign by grace of God, at the fast flowing river Salzach, once impatiently longing for outstanding achievements; now, that my body is decayed by diseases: I build this quiet house, this silent port for me within six months."

sensu privatur ac toto corpore convellitur, epileptico insultu, quo etiam alias correptus est, cum desperanda symptomatum magnitudine, sui scilicet alienatione, quod signum herculei affectus est pathognomicum, spuma, stertore insigni, faciei perversione.

Fig. 3. Examination protocol: part one.

“... sensu privatur ac toto corpore convellitur, epileptico insultu, quo etiam alias correptus est, cum desperanda symptomatum magnitudine, sui scilicet alienatione, quod signum herculei affectus est pathognomicum, spuma, stertore insigni, faciei perversione.”

“...he loses consciousness. His whole body is jerked by an epileptic seizure, as he suffered from before. The symptoms are of such desperate magnitude, namely unconsciousness, salivation, breathing in a stertorously way and distortion of his face, which are pathognomic for the disease of Hercules.”

tibia, brachia, singula singulis fonticulis insignita, demaciata videbantur”]. The subcutis showed a thick fat layer. Part of his spleen was cirrhotic. One kidney was obstructed by five very hard little stones. The heart [“cor magnum, in quo lapsus nullus”] and liver [“Hepar magnum, sanum”] were large but considered intact. The peritoneum, omentum majus, mesenterium, stomach and intestines were intact [2]. The lung was fraught with viscous mucus [“pituita imbutus”]. Part of it adhered to the pleura. Its livid colored parenchyma was covered with dark blue maculae and looked as if strewn with hailstones [“Hujus parenchyma atroceruleis distinguebatur maculis et ceu grandinibus scatebat”] [2]. The cause of his death was assumed to be intracerebral, most likely inside the ventricles. However, for religious reasons, it was felt inappropriate at that time to open the skull and perform a brain autopsy [“causa mortis in capite requienda fuisset, in cerebri potissimum ventriculis, ... curiosius ultiora rimari vix aequum fuit.”] [2] (Fig. 5).

Wolf Dietrich of Raitenau was buried at St. Sebastian's Cemetery at Salzburg. The mausoleum was opened several times for the last time on April 20th 2004. Only part of the skeleton was preserved, suboptimally stored in plastic bags, and, therefore, molded. On the exhumed cranium, a squamous suture was found, which was more

rum orientalem infillato. leva corporis pars, jam pridem simili an apoplectico assultu in paralytin resoluta, immobilis prorsus est reddita.

Fig. 4. Examination protocol: part two.

“... leva corporis pars, jam pridem simili ex apoplectico assultu in paralytin resoluta, immobilis prorsus est reddita.”

“... The left part of his body, which was paralyzed due to a former apoplectic insult, was now completely immobile.”

Causa mortis in capite requienda fuisset, in cerebri potissimum ventriculis, sed ne larvati fuerent.

Fig. 5. Examination protocol: part three.

“Causa mortis in capite requienda fuisset, in cerebri potissimum ventriculis...”.

“The cause of his death would have had to be searched for in his head, most likely inside the brain's ventricles...”.

dehiscent on the right (2.3 mm) than on the left (1 mm) side. His teeth showed an excellent nutritional condition for a nearly 60-year-old man, even if considered by today's standards [4].

## 4. Discussion

### 4.1. Semiology and functional anatomy

The terminal suffering of Wolf Dietrich of Raitenau is the first witnessed case report on fatal SE in Salzburg.

He suffered from two strokes in different vascular territories [1,2]. His personal physician clearly points out epilepsy in his autopsy protocol. He differentiates between the terms “apoplectico assultu” and “epileptico insultu” not only using these terms but also in describing the symptoms. Moreover, he uses the term “herculeus affectus” [2]. In the baroque era, epilepsy was named “disease of Hercules” or, in Latin, “morbus Herculeus” documented by Hippocrates and commented on by Galen later [5]. Salivation, stertorous breathing, and unconsciousness were considered pathognomic to this disease [2]. The description of WD's last days fulfills today's definitions of SE even in the absence of an EEG because the Archbishop's unconscious state lasted for 8 h and because fluctuation of focal clinical symptoms was clearly documented.

This SE had a focal right hemispheric onset, as documented by postictal left-sided Todd's hemiplegia [2]. At this passage in the text, his personal physician deals inaccurately with the focal symptoms in WD's face: “facies perversione” may be translated as “distorted face”, “grimacing”, or “tonic movement of his face”, or, more precisely, “eye deviation”. All possible translations point to a focal onset as well.

### 4.2. Etiology of epilepsy

Wolf Dietrich of Raitenau was in an abundant nutritional shape. Although imprisoned at Hohensalzburg, he received good food provided by his successor who feared and aimed to prevent malicious gossip. The former Archbishop still was very popular with the Salzburg people [6].

An older theory hypothesized a posttraumatic etiology of WD's seizures. The CT examination of WD's exhumed cranium performed in 2004 showed a prominent dehiscence in the squamous suture on the right side. This dehiscence could be posttraumatic (intra vitam) as a result of a horse-riding accident in his youth and eventually lead to right hemispheric posttraumatic epilepsy. However, most likely, this dehiscence was caused by mold and liquidation of the bone postmortem as a result of storage in the crypt in a plastic bag for years [4]. Thus, posttraumatic epilepsy seems less likely to the authors.

There are only a few hints on the etiology of his ischemic strokes within the autopsy protocol. The autopsy protocol notes an obese torso and macerated limbs, covered by ulcers [2]. A male body fat distribution type is a risk factor for diabetes mellitus and may reflect metabolic disease. However, microrangiopathy is less likely to be responsible for a putative lacunar lesion in the brain, as this would be too small to explain the clinical signs of hemiplegia, dysphagia, and buccofacial apraxia.

With regard to a macroangiopathic stroke etiology, arteries were not examined in detail. However, signs of coronary artery disease were not documented. On the other hand, a partly cirrhotic spleen [2] may be interpreted as old infarction. Possible etiologies for spleen infarction may be macroangiopathy or vasculitis.

A frequent stroke etiology in the baroque era was luetic vasculitis. Not living the celibate lifestyle, this stroke etiology cannot be ruled out strictly. The limbs covered by ulcera [*“singula singulis fonticulis insignita”*] could illustrate lues II. On the other hand, this hypothesis does not explain the stroke back in 1604 because it seems unlikely to the authors that a patient would have secondary syphilis for so many years, and there was no radiologic evidence for lues in the postmortem CT scan of his bones [4].

Symptoms or signs of cardiac arrhythmia (e.g., dilated left atrium) were not documented among the existing literary sources, but, because of the magnitude of the focal symptoms and the fact that he suffered from two strokes in different vascular territories, the cardio embolic etiology remains the most plausible cause for his ischemic strokes, leading to symptomatic vascular epilepsy.

#### 4.3. Cause of his death

The autopsy of his body (excluding the brain) did not resolve the cause of his death completely in respect to medical knowledge at that time. Most of the organs were unremarkable. However, there are some important clues to the diagnosis.

First, as mentioned above, there are hints for a microangiopathic cardiovascular risk profile.

Second, of special interest are the following pulmonal findings. The partial adherence of the lung to the pleura perfectly fits to the horse-riding accident in WD's youth [4] or may illustrate a previous pneumonia. The lung, covered by blue maculae, may illustrate a normal postmortem finding, and its parenchyma strewn with hailstones [*“grandinibus scatebat”*] [2] may be interpreted as pulmonary tuberculosis or signs of aspiration. However, tuberculosis seems less likely to the authors because of WD's abundant nutritional shape.

The amount of intrapulmonal viscous mucus together with the detailed description of salivation during 8 h in combination with persisting buccofacial apraxia, dysphagia, and the several attempts to

wipe the saliva off his mouth [2] clearly points to aspiration leading to lethal respiratory insufficiency.

#### 5. Conclusion

Archbishop Wolf Dietrich suffered from vascular epilepsy and most likely died of aspiration, leading to respiratory insufficiency after symptomatic status epilepticus. An acute symptomatic etiology of this fatal SE cannot be ruled out, as for religious reasons, WD's brain was not autopsied.

Meticulous medical reporting including autopsy was already available in Salzburg in 1617, and the symptomatic etiology of WD's epilepsy was diagnosed correctly.

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#### Conflict of interests

The authors have no conflict of interest to declare which is relevant to this research.

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