European Journal of Internal Medicine 31 (2016) 84–87

Contents lists available at ScienceDirect

European Journal of Internal Medicine

journal homepage: www.elsevier.com/locate/ejim

Original Article

The sudden death of Alaric I (c. 370–410 AD), the vanquisher of Rome: A tale of malaria and lacking immunity

Francesco M. Galassi [a,*], Raffaella Bianucci [b,c], Giacomo Gorini [d], Giacomo M. Paganotti [e,f], Michael E. Habicht [a], Frank J. Rühli [a]

[a] Institute of Evolutionary Medicine, University of Zurich, Winterthurerstrasse 190, 8057 Zurich, Switzerland
[b] Department of Public Health and Paediatric Sciences, Legal Medicine Section, Laboratory of Physical Anthropology, University of Turin, Corso Galileo Galilei 22, 10 126 Turin, Italy
[c] Faculté de Médecine de Marseille, UMR 7268, Laboratoire d'Anthropologie bio-culturelle, Droit, Etique & Santé (Adés), France
[d] Department of Veterinary Medicine, University of Cambridge, Cambridge, United Kingdom
[e] Botswana–University of Pennsylvania Partnership, P.O. Box AC 157 ACH, Gaborone, Botswana
[f] Perelmann School of Medicine, University of Pennsylvania, Building 421, 5162, 3400 Civic Center Boulevard, Philadelphia, PA 19104, United States

ARTICLE INFO

Article history:
Received 14 February 2016
Accepted 16 February 2016
Available online 9 March 2016

Keywords:
Malaria
Alaric I
Immunity
Paleopathology

ABSTRACT

Background: Alaric I (c. 370–410 AD), King of the Visigoths, sacked Rome for the second time in over eight centuries of history. Historians suggest that malaria, probably contracted either in Rome or in the Pontine Marshes, was responsible for his sudden death in Cosenza (Calabria) in the autumn of 410 AD, where he was allegedly buried in the River Busento. In this article, we aim to examine this hypothesis through a full pathographic reassessment of the most likely cause of Alaric's demise.
Methods: To achieve this, we resorted to a dual philological–medical approach: clinical likelihood and malaria seasonality coupled with primary historical sources (mainly Jordanes' work *De origine actibusque Getarum*) and the reconstruction of the itineraries followed by Alaric and his army after the sack of Rome.
Results: Sudden death is caused by several factors. The possibility that Alaric died of a cardiovascular disease was discarded since no description of potentially pathological signs emerged from the available sources. Given his lack of semi-immunity, falciparum malaria was considered as the most likely cause of his demise. It took him over two months to reach the coasts of Calabria during the peak of malaria's transmission (summer–autumn). During the march, Alaric did not suffer from recurrent fevers or other ailments, which would have been reported by historians.
Conclusion: The scenario emerging from this multidisciplinary reanalysis allows us to hypothesise that *Plasmodium falciparum* malaria, contracted during his journey through Calabria, was the most likely candidate responsible for Alaric's unexpected demise.

1. Historical and archaeological background

Among the accomplished military leaders who seriously threatened the Roman superpower over the centuries [i.e. Hannibal of Carthage (247–183 BC); King Mithridates VI of Pontus (132–63 BC); Vercingetorix the Arverne (80–46 BC); Attila the Hun (406–453 AD)], Alaric I (c. 370–410 AD), King of the Visigoths, deserves special attention. Born a nobleman initially loyal to Roman authority, he then rose against it establishing his own kingdom by means of a series of military campaigns in the Italian peninsula culminating in the sack of Rome on 24th August 410 AD, which lasted three days. Alaric spared some of the major churches but his army plundered most of the city's riches. After the looting, they headed south crossing Campania and they finally reached Reggio Calabria [1] (Fig. 1).

The late historian Jordanes (6th century BC) in his work *De Origine actibusque Getarum* (or *Getica*), a summary of a previous work by Cassiodorus (c. 485–585 AD), writes that at Reggio Calabria (ancient Rhegium), Alaric assembled a fleet to quickly overtake Sicily and the African shores. His plans, however, were ruined by a storm, which destroyed his fleet (*aliquantas naves submersit*, *plurimas conturbavit*). Since the original plans had failed, Alaric and his clan headed north to find winter quarters. However, his journey was abruptly stopped in Cosenza (ancient Consentia) where he suddenly died.

Jordanes describes Alaric's funeral: his countrymen buried him along with his treasures in the bed of the Busento River (crossing Cosenza). All slaves, who had diverted the river's course and dug the tomb, were ruthlessly executed. This was done in order to ensure that the exact location of the king's tomb would remain shrouded in secrecy for eternity [2]. Archaeologically speaking, the exact amount of Alaric's riches that may have been buried with him is difficult to estimate since Jordanes (Getica, 157) merely mentions "many riches" (*multas opes*), while, a

* Corresponding author. Tel.: +41 44 635 05 40.
E-mail address: francesco.galassi@iem.uzh.ch (F.M. Galassi).

http://dx.doi.org/10.1016/j.ejim.2016.02.020
0953-6205/

Fig. 1. Alaric's second campaign in Italy (408–410). The map shows Alaric's itinerary from Rome to Reggio Calabria after the 410 sack. From Ghilardi M., Pilara G. I Barbari che presero Roma. Il Sacco del 410 e le sue conseguenze. Roma: Aracne editrice; 2010, p. 165.
Reproduced with the authors' permission.

little earlier (Getica, 156) when describing his descent into Calabria, specifies "with the wealth of all Italy" (cum *opibus totius Italiae*). Some popular traditions posit that it could also have included the mythical Menorah (i.e. the seven-armed candle holder) stolen by the Romans from the temple of Jerusalem (70 AD). In this regard, however, no certainty exists, since Procopius of Caesarea (490–565 AD) reports that the Byzantines led by General Belisarius (c. 505–565 AD) during their triumph through Constantinople exhibited "the treasures of Jews, which Titus […] had brought to Rome after the capture of Jerusalem." According to Procopius, those treasures were subsequently sent back to Jerusalem [3]. If the Menorah were really part of those riches, then it had to have been stolen by the Vandals, who sacked Rome in 427 BC, 17 years after Alaric's war deed and not by the Visigoths. In any case, while there is a possibility that the tomb really is in the Busento River as reported by Jordanes, it should also be stressed how—as correctly pointed out by the historian Herwig Wolfram—it may all be a legend, since the image of the "grave in the river" may well belong to a set of funerary and cultural practises typical of Scythia, the Goths' ancestral homeland between the lower Danube and the Black Sea [4].

2. The pathographic reassessment

2.1. Historical sources

Beyond the strictly archaeological quest, an equally interesting problem concerns the aetiology of the disease that caused Alaric's sudden demise. As described in the written sources, Alaric was apparently in healthy condition and was planning on new campaigns and military targets.

To date, no proper pathographic reassessment based on a thorough investigation of the historical sources interpreted from a clinical point of view has ever been performed. In the absence of a corpse or of a skeleton, a dual philological–medical approach represents a useful tool to gain new insights on the diseases that affected ancient historical characters. For instance, a recent reanalysis of ancient Greco-Roman sources has allowed scholars to question the foundations of Julius Caesar's (101–44 BC) alleged epilepsy. A cerebrovascular disease was suggested as a more appropriate diagnosis consistent with the available historical accounts [5].

Since no original coeval accounts exist, the reassessment of Alaric's health can exclusively rely on later Byzantine sources, namely, Zosimus