

## Surgeons in the time of plague: Guy de Chauliac in fourteenth-century France

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Coronavirus disease-19 has engulfed our world. With millions sickened and hundreds of thousands dead, the disease has utterly upended life around the globe. Although devastating, the coronavirus represents one of countless pandemics that have assailed humanity throughout history. The most famous of these, the Black Death, struck globally in the thirteenth to fifteenth centuries, but peaked in Europe between 1347 and 1351. Bedeviling the curative efforts of doctors, kings, sorcerers, and priests alike, the plague killed at least one-third of the continent's population. Guy de Chauliac, a medieval practitioner known later as the father of Western surgery, worked courageously caring for patients through the Black Death (Fig).<sup>1,2</sup> Examining Guy's experience exposes how medical providers in the Middle Ages understood and treated this disease. It also provides a sterling example of a surgeon committed to his patients above all else that we would do well to heed in this modern time of uncertainty.

Little is known about Guy's early life. He studied medicine at Bologna and Montpellier, two of the leading universities of the period. At a time when medicine and surgery frequently opposed each other, Guy attempted to unite the two professions, and he himself simultaneously trained as a physician (*medicus*) while practicing as a surgeon (*cyrigicus*).<sup>3</sup> In his magnum opus, *Inventarium sive Chirurgia magna* (1363), Guy melded contemporary experiences with a wide panoply of ancient and medieval sources into a synthetic whole. There, he described various methods of vascular control, including vessel ligation. *Chirurgia magna* brought him great renown and was used as a standard textbook for the next three centuries by luminaries such as Ambroise Paré.<sup>4</sup>

Guy became a papal physician in the 1340s, tending to Pope Clement VI as the plague swept through Avignon, France, in 1348 (at the time, the Papal Court had moved to Avignon for political reasons). The arrival of the disease confounded physicians and patients alike, but the common appellation *grandis mortalitas* indicated how quickly all parties recognized its severity.<sup>5</sup> Confronted by a new and devastating pathology, the medical world struggled to explain the pestilence; more than 281 plague treatises appeared between 1350 and 1500 that attempted to elucidate the etiology of the disease and prescribe effective remedies for it.<sup>6</sup> Despite the predominance of religion in the medieval world, university-trained physicians and surgeons often appealed to naturalistic causes. These ranged from theories of impure miasmas seeping from the ground to cosmological explanations surrounding the parlous arrangement of planets, particularly the conjunction of Saturn, Mars, and Jupiter in Aquarius at 1:00 pm on March 20, 1345.<sup>5</sup> Meanwhile, lay people could believe the plague contagious or attribute it to well-poisonings, a theory that led to massacres of Jews throughout the continent in an oft-repeated tendency to blame minority groups for public health disasters.<sup>7</sup>

In this setting of confusion, death, and disillusionment, Guy recorded a carefully abstracted, epidemiologic summary of the plague, emphasizing both its clinical features and its social impacts.<sup>8</sup> Of the latter, he observed, "it was so contagious (especially that which involved spitting of blood) that one man caught it from another not just when living nearby but simply by looking at him; so much so that people died without servants and were buried without priests. Father would not visit son, nor son, father; charity was dead, and hope prostrate." As in contemporary times, medical responses were severely strained, so much so that, "physicians felt useless and ashamed, inasmuch as they did not dare visit the sick for fear of infection; and when they did visit them they could do very little and accomplished nothing."<sup>9</sup> Becoming one of the best-known plague treatises, this document bolstered Guy's reputation and became a standard reference for contemporary clinicians studying the Black Death.

Despite the apparent futility, Guy himself did not flee, unlike some physicians who abandoned their charges. Ministering to his patients, he contracted a continuous fever and "aposteme in the groin, surviving only due to god's will." He lived long enough to see a recrudescence

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**Fig.** Guy de Chauliac, Stipple engraving by A. Tardieu.  
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of the plague in 1360, when he was again called to service.<sup>10</sup> Guy exemplifies the importance and value of studying novel diseases that appear in our lifetimes and, most importantly, that our commitment to caring for patients should remain an unbreakable bond, no matter the circumstances.

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