

Amedeo Modigliani and his “great secret”: a brief history of medical and social aspects of tuberculosis in the nineteenth and early twentieth century

Antonio Perciaccante¹, Alessia Coralli², Otto Appenzeller^{3,4}

¹Department of Medicine, “San Giovanni di Dio” Hospital, Gorizia, Italy;

²AAS 2 Bassa Friulana-Isontina, Gorizia, Italy;

³New Mexico Health Enhancement and Marathon Clinics Research Foundation, Albuquerque, NM, USA;

⁴New Mexico Museum of Natural History and Science, Albuquerque NM, USA

SUMMARY

The pathography of the famous painter and sculptor Amedeo Modigliani (1884-1920) shows that he had tuberculosis and died of tubercular meningitis aged 35. The nineteenth century was characterized by numerous milestones in the history of tuberculosis. In 1853, Hermann Brehmer, first used the term tuberculosis referred to at the time as “phthisis”. In 1865, Jean Antoine Villemin demonstrated the infectious etiology of the disease. This was confirmed in 1882 by Robert Koch by identifying the tubercle bacillus. Koch also invented the diagnostic tuberculin test. Charles Mantoux and Florence Seibert improved this test. Identification of the infectious etiology of tuberculosis led to experiments of effective treatments for this disease. The most suc-

cessful treatment for tuberculosis was by sanatorium regime. From the late nineteenth century, more invasive therapeutic approaches such as artificial pneumothorax were introduced. The advent of streptomycin in 1945 changed the social view of tuberculosis. This previously romanticized disease became a social stigma which was associated with poor social and moral standards; patients were kept in isolation. Fearing social ostracism, Modigliani refused treatment for tuberculosis and instead deliberately fostered his reputation as an alcoholic and addict in order to conceal the disease.

Keywords: tuberculosis, Modigliani, history, stigma, pathography.

Pathographies are important sources of patient’s attitudes and assumptions regarding their illness [1]. The pathography of the famous painter and sculptor, Amedeo Modigliani (1884-1920) shows that he had tuberculosis and died of tubercular meningitis aged 35. Here we report a brief history of the medical and

social aspects of tuberculosis in the period from the second half of the nineteenth to the early twentieth centuries.

Historical sources show that he had three “plagues” in his life: tuberculosis, alcoholism, and drugs addiction [2-4]. At age eleven, Modigliani had the first episode of pleurisy and, a few years later, he suffered from typhoid fever. At sixteen, he had a further episode of pleurisy and tuberculosis was diagnosed. His mother took him to Southern Italy because of the milder climate there. After he recovered from tubercu-

Corresponding author

Antonio Perciaccante

E-mail: antonioperciaccante@libero.it

losis, Modigliani started a tour of Rome, Florence, and Venice studying the art of Antiquity and of the Renaissance. In 1906, he moved to Paris, where he developed his own unique style, characterized by elongated, necks and figures. At that time, he was “physically wasted by tuberculosis” [3]. Within a year of arriving in Paris Modigliani changed his lifestyle and lived in poverty. He started drinking heavily and used hashish, cocaine, and opium, common habits in art circles at that time. Physical signs of signs of alcoholism and drugs addiction “produced irreparable changes in both body and mind” [3]. He lost most of his teeth and, in 1909, he was described as “tired, worn-out and under-nourished” [3]. In 1914, he had spasmodic coughing, hemoptysis, asthenia, and bouts of erratic behavior; his tuberculosis relapsed and he consciously increased his alcohol and drug intake to hide his “great secret”: tuberculosis [2-4]. In 1920, a neighbor found Modigliani in bed delirious. The artist was admitted at the Hôpital de la Charité, where tubercular meningitis was diagnosed and he died on January 24, 1920 [2-4].

Tuberculosis has plagued humans since prehistoric times [5]. Studies suggested that the modern strains of *Mycobacterium* have originated from a common ancestor about 15,000-20,000 years ago as shown by *Mycobacterium* DNA recovered from Egyptian and pre-Columbian mummies [6-8]. Tuberculosis was known in classical Greece as “phthisis”. Its symptoms (fever, sweating and coughing of blood-stained sputum) and treatment (milk intake and fresh air) were described by Hippocrates (460-370 BC), Aretaeus (2th century AC) and Galen (129-about 201 AC) [9, 10]. A large outbreak of tuberculosis occurred in Europe during the nineteenth and early twenty centuries [11].

In 1819, René Laennec (1781-1826) characterized pulmonary and extra-pulmonary tuberculosis and described most of the physical signs [12]. In 1834, Johann Schönlein (1793-1864) introduced the term tuberculosis to describe the disease and, in 1853, Hermann Brehmer (1826-1889) used the term tuberculosis of the lungs referring to phthisis [10].

The first half of the nineteenth century was characterized by a romantic view of the disease, particularly among intellectuals and artists. Subjects suffering from tuberculosis had an aura of excep-

tionality and the sick body acquired an aristocratic aspect showing an individuality separated from the average social standards [13]. In 1865, Jean-Antoine Villemin (1827-1892) demonstrated the infectious etiology of the disease by inoculating rabbits with a purulent liquid from a tuberculous cavity and William Budd (1811-1880) suggested that tuberculosis “is disseminated through society by specific germs” [14].

On March 24, 1882, the history of tuberculosis changed. Robert Koch (1843-1910) demonstrated the tubercular bacillus and proposed his famous postulates [15, 16]. He also isolated tuberculin from tubercle bacilli a substance used in the diagnosis of the disease [17, 18]. Clemens von Pirquet (1874-1929) noted that a positive tuberculin test is indicative of infection in children without clinically manifest tuberculosis and coined the term “latent tuberculosis” [19]. In 1908, Charles Mantoux (1877-1947) introduced the use of a syringe and needle to perform the tuberculin test and Florence Seibert (1897-1991) developed a purified protein derivate [20].

During this time, a decline in the mortality rate occurred, probably due to improved social and living conditions and improved nutrition. Herd immunity resulting from natural selection which also developed at that time.

Treatment of the disease was only partially successful using sanatorium regimens, based on aerotherapy, rest, nutritious food, sunbathing and moderate physical exercise [21], [22].

From the late nineteenth century, sanatoria treatment was supplemented by more invasive approaches, such as phrenicotomy, thoracoplasty and artificial pneumothorax, which was first practiced by Italian surgeon Carlo Forlanini (1847-1918) in 1888 [22]. These surgical treatments were abandoned in 1945, with the introduction of streptomycin and other anti-tubercular drugs [21].

Moreover, starting from the second half of the nineteenth century, the social view of tuberculosis dramatically changed. The definitive demonstration that tuberculosis is an infectious and contagious disease marked the end of the “romantic” view of the disease and started the era of tuberculosis “stigmatization”. The subjects affected by tuberculosis were isolated and the disease was associated with poverty and moral turpitude [13]. This social stigmatization led Modigliani to reject the image of a sick person, refuse treatment in a

sanatorium and to mask his symptoms. Modigliani was terrified of the social ostracism that would result from his contagious disease; thus, he deliberately fostered a reputation as an alcoholic and addict to prevent detection. This cover allowed him to freely drink alcohol that soothed his coughing, use the drugs that gave him energy to work and pass off as drunk and disorderly irritable or violent, but not as a sick man.

His alcohol and drugs dependence and his malnutrition, together with the unhygienic living condition during his stay in Paris, could have favored the relapse of tuberculosis and accelerated his decline and death at such an early age.

■ REFERENCES

- [1] Hawkins A.H. Pathography: patient narratives of illness. *W.J.M.* 171, 127-129, 1999.
- [2] Secrest M. *Modigliani: a life*. Knopf Doubleday Publishing Group, 2011.
- [3] Modigliani J. *Modigliani: man and myth*. The Orion Press, New York, 1958.
- [4] Meyers J. *Modigliani: a life*. Houghton Mifflin Harcourt, 2014.
- [5] Gutierrez M.C., Brisse S., Brosch R., et al. Ancient origin and gene mosaicism of the progenitor of *Mycobacterium tuberculosis*. *PLoS Pathog.* 1, e5, 2005.
- [6] Sreevatsan S., Pan X., Stokbauer K.E., et al. Restricted structural gene polymorphism in the *Mycobacterium tuberculosis* complex indicates evolutionary recent global dissemination. *Proc. Natl. Acad. Sci. USA.* 94, 9869-9874, 1997.
- [7] Nerlich A.G., Haas C.J., Zink A., et al. Molecular evidence for tuberculosis in an ancient Egyptian mummy. *Lancet* 350, 1404, 1997.
- [8] Salo W., Aufderheide A.C., Buikstra J., Holcom T.A. Identification of *Mycobacterium tuberculosis* DNA in pre-Columbian Peruvian mummy. *Proc. Natl. Acad. Sci. USA.* 91, 2091-2094, 1994.
- [9] Hippocrates. Book 1 - Of the Epidemics. In *The Genuine works of Hippocrates*. (Adams F. Ed) 1849, 352-354. London: The Sydenham Society.
- [10] Frith J. History of tuberculosis. Part 1 - Phthisis, consumption and the White Plague. *J. Milit. Vet. Health.* 22, 29-35, 2014.
- [11] Krause A.K. Tuberculosis and public health. *Am. Rev. Tuberc.* 18, 271-322, 1928.
- [12] Laennec R.T.H. *A treatise on the disease of the chest, translated by Forbes J.* 1962. New York, NY: Hafner Publishing Company.
- [13] Porto A. Social representations of tuberculosis: stigma and prejudice. *Rev. Salude Publica.* 41 (Suppl. 1), 1-7, 2007.
- [14] Budd W. The nature and the mode of propagation of phthisis. *Lancet* 2, 451-452, 1867.
- [15] Koch R. Die aetiologie der tuberculose, a translation by Berna Pinner and Max Pinner with an introduction by Allen K Krause. *Am. Rev. Tuberc.* 25, 285-323, 1932.
- [16] Daniel T.M. Robert Koch and the pathogenesis of tuberculosis. *Int. J. Tuberc. Lung. Dis.* 9, 1181-1182, 2005.
- [17] Koch R. Über bakteriologische forschung. *Verhandlungen des X internationalen medizenischen kongresses, Berlin, Germany.* 1890, August Hirschwald.
- [18] Koch R. Weitere mitteilungen uber ein heilmittel gegen tuberculose. *Dtsch. Med. Wschr.* 17, 101-102, 1891.
- [19] von Pirquet C. Der diagnostische wert der kutanen tuberkulin reaktion bei der tuberkulose des kindesalters auf grund von 100 sektionen. *Wien Klin. Wschr.* 20, 1123-1128, 1907.
- [20] Daniel T.M. The history of tuberculosis. *Resp. Med.* 100, 1862-1870, 2006.
- [21] Riva M.A. From milk to rifampicin and back again: history of failure and successes in the treatment for tuberculosis. *J. Antibiot.* 67, 9, 661-665, 2014.
- [22] Frith J. History of tuberculosis. Part 2 - The Sanatoria and the discoveries of the tubercle bacillus. *J. Milit. Vet. Health.* 22, 36-41, 2014.