

Brussels, the last journey of Giacomo Puccini

Rosario Marchese-Ragona¹ and Stefano Berrettini²

¹Department of Neuroscience DNS, University of Padova, Padova, Italy. Section of Otorhinolaryngology-Head and Neck Surgery, Azienda Ospedale-Università Padova, Padua, Italy.

²Department of Surgical, Medical and Molecular Pathology and Critical Care Medicine, Otolaryngology, Audiology and Phoniatric Operative Unit, Azienda Ospedaliero-Universitaria Pisana (AOUP), University of Pisa, Via Paradisa, 2, 56124, Pisa, Italy.

Introduction

Giacomo Puccini (figure 1), the great opera composer, was born in Lucca in 1858 to a family of musical tradition. The Puccini's held the position of maestro di cappella at the Cathedral of San Martino in Lucca from 1740, but when his father died in 1864, Giacomo was only six years old. Reluctant to learn in school, Puccini conversely demonstrated great musical talent from an early age. In 1875, he graduated with first prize in organ at the Pacini School of Music in Lucca. On March 11, 1876, the young Puccini, after walking nearly 20 miles from Lucca to Pisa to the Teatro Nuovo to attend Verdi's *Aida*, matured the idea of becoming a composer. From 1880, thanks to a scholarship, he studied for three years at the Milan Conservatory. His first opera, *La Villi*, had a modest success; the second opera, *Edgar*, was a failure. His next works, (*Manon Lescaut*, *La Bohème*, *Tosca*, and *Madama Butterfly*) were major successes in opera houses around the world, making Puccini a rich and glamorous international star, the most acclaimed and wealthiest composer of his time. Giacomo Puccini in 1904 scandalously married Lucchese Elvira Gemignani, who left her husband to be with him. In 1921 Puccini began the composition of *Turandot*, and by November 1922 he had completed the orchestration of the first act. Puccini received drafts of the second and third acts from librettists Giuseppe Adami and Renato Simoni. In February 1923 the second act was completed, and the following month Puccini arrived to orchestrate the third act until Liu's death.

First symptoms

Puccini, a heavy smoker of Tuscan cigars and cigarettes, began to complain of a constant sore throat in late 1923. Because the previous summer, while on tour in Ingolstadt, he had accidentally swallowed a goose bone which was removed from his hypopharynx, it was long thought that the discomfort was a consequence of that incident. As the problems persisted, Puccini resorted to several ENT doctors who ordered several natural remedies, including mouthwashes, milk and honey and raw eggs. A specialist suggested thermal treatments that Puccini underwent in Salsomaggiore Terme where he met the King of Italy, who advised him to "gargle with water



and salt". He wrote to a friend, "Salsomaggiore will do the uterus good, but I have a sore throat. In August he wrote to a friend: "My bad throat gives me great boredom. I have seen, as I told you, four-specialists who all recommend one cure or the other. My bad tonsillitis and pharyngitis of seven months torment me..." In the autumn of 1924, Puccini began working with Arturo Toscanini, who had been chosen to conduct the opera's premiere, planned for April 1925 [1, 2]. His sore throat became more insistent with otalgia and pain on swallowing. The dysphonia worsened, and lumps in the neck that hindered the closure of his shirt collar developed. Puccini in October was visited in Florence by both Camillo Torrigiani head ENT of the Ospedali Riuniti and Addeo Toti head ENT of the hospital of S. Maria Nuova who found a neoplasm

of the larynx and recommended radiotherapy, Torrigiani in Berlin and Toti in Florence at the Istituto Fototerapico. Given the patient's notoriety, they agreed to a consultation with the best-known laryngologist of the time, Professor Giuseppe Gradenigo, who arrived from Naples on November 2, 1924, and examined Puccini along with Torrigiani and Toti, and performed a biopsy of the tumor. The consultation and laryngeal biopsy confirmed the clinical diagnosis of a walnut sized advanced extrinsic cancer of the supraglottis with metastases in the neck [3]. Gradenigo promptly suggested that Puccini should go to Dr Louis Ledoux's clinic in Brussels, where laryngeal cancer was treated by radium therapy. In Gradenigo's words, '...Go to Brussels. Radium works miracles there.... A small tumor... It will all go away.'

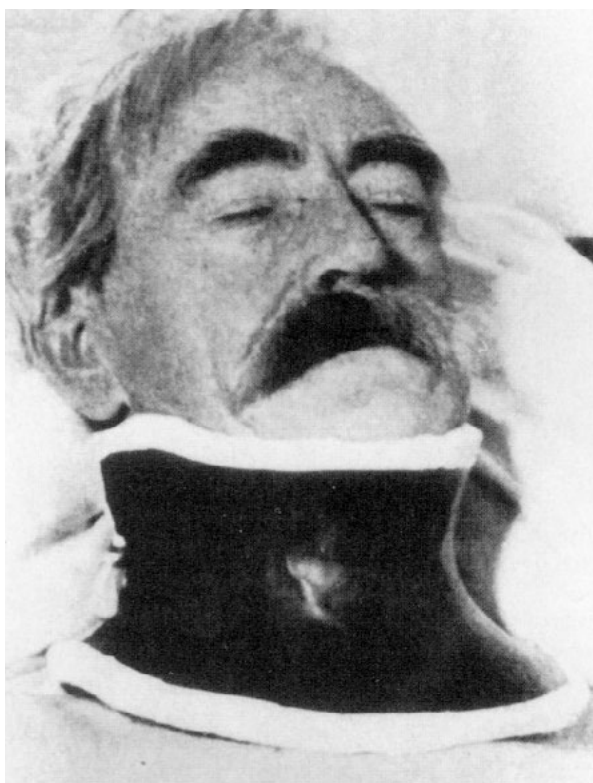


Figure 2,3 The radium Collar ed the Ledoux' operation. *Inserire fonte, inserire due distinte didascalie*

On November 3, Arturo Toscanini, who had been chosen to conduct the premiere of the opera, informed about Puccini's illness went to Puccini's villa in Viareggio, officially to discuss *Turandot*. Puccini said, "Arturo! Once I return from Brussels, I will soon finish *Turandot*!" and joked with Toscanini about the change in his voice. "Do you hear Arturo what

a tenor voice?" and made vocalizations. Puccini then made a sad prophecy: "the opera will be performed incomplete, and then someone will come out in the limelight and say to the audience, 'At this point the maestro is dead.' When Puccini went by train to Brussels on 4 November, he took with him 36 pages of notes and musical sketches for the finale

of Turandot. During the trip, the composer had numerous episodes of spitting blood. On November 5 the composer arrived in Brussels and stayed at the Hotel Metropole. On November 6, Puccini at the Radium Institute underwent laryngeal biopsy with cocaine anesthesia, which confirmed a spinocellular epithelioma of the larynx. On 10 November Puccini began treatment with radiotherapy; a collar containing radium was placed on his neck for a few hours per day (Figure 2). Puccini wrote to a friend, "I am being crucified like a Christ! I have a collar around my throat that is like torture. I am having the external X-ray treatment at present, and then they will put crystal needles into my neck and make a hole, again in my neck, so that I can breathe. [...] The thought of that hole, with a rubber or silver tube in it terrifies me. [...] What an ordeal! God help me. This treatment will last no less than six weeks, it is terrible! They assure me that I will be cured. [...] But since my arrival, my illness has worsened. I spit much dark blood each morning." The result of external radium was relatively fast; the clinical condition improved in the following days, the haemoptysis ceased, Puccini regained his usual appetite and... began to smoke again. The Italian ambassador to Belgium, the Pisano nobleman Luca Orsini Baroni, was close to Puccini and often visited him at the clinic. On 24 November, Ledoux inserted seven radioactive needles into Puccini's laryngeal cancer. The operation lasted three hours and 40 minutes and was performed under local anaesthesia. A tracheotomy was performed, and a nasogastric tube was inserted (Figure 3). Ledoux planned to leave the radioactive needles in until 30 November. Puccini, unable to speak because of the radium needles placed in his throat, wrote: "I feel as though I have bayonets in my throat!" He was fed via a nasogastric tube, and he quenched his thirst in the following days with sips of Champagne.

At six o'clock in the evening of 28 November Puccini had a heart-attack and lost consciousness. His heartbeat became irregular and the wound began to bleed. Ledoux immediately removed the needles from the larynx and gave an injection, probably of morphine. Puccini, for the last time, wrote: "I am worse than yesterday, hell in my throat, and I feel faint, fresh water [...]" Giacomo Puccini died on 29



November at the age of 66 [1-3]. By the time of his death, Puccini had become the most commercially successful opera composer of all time, with an estimated personal fortune of \$200 million. On Dec. 1 In Brussels, a solemn funeral was celebrated by the Apostolic Nuncio Monsignor Micara in the church of Sainte-Marie, and the Royal Theater De La Monnaie, commemorated Puccini with a performance of "Bohème. A solemn funeral was held in Milan Cathedral on 3 December, 1926. Arturo Toscanini with the chorus and orchestra of La Scala, Milan performed the 'Requiem Mass' from Edgar; the Italian Parliament declared a National Day of Mourning. Puccini's publisher Giulio Ricordi and Arturo Toscanini decided to have Turandot completed by composer Franco Alfano, whose opera Sakuntala had exotic themes, but Toscanini was not fully satisfied with the result. Toscanini conducted the premiere of the opera at La Scala in Milan on April 25, 1926 (Figure 4), and during the third act, Toscanini interrupted the performance on Puccini's last note and turning to the audience and laying down his baton sadly

said, "Here ends the performance because at this point the maestro is dead." In the following days the opera was staged with the finale revised by Franco Alfano and conducted by Ettore Panizza; Toscanini never conducted Turandot again.

Cancer of larynx in the early 1900s.

At this time, laryngeal cancers were classified as 'intrinsic' or 'extrinsic'. Intrinsic laryngeal cancers were lesions arising in the interior of the larynx, relatively benign in character, slow in growth and only invading the glands in an advanced stage. Extrinsic carcinomas originated around the orifice of the larynx, or on its pharyngeal surface. Their biological behaviour was considered much more malignant and insidiously rapid with invasion of the lymphatics at a very early stage. In the 1920s patients with extrinsic laryngeal cancer were left to their fate, especially when neck nodes were involved. In the period from about 1925 to 1940, radiation therapy was the treatment of choice for extrinsic cancers; surgery was limited to the small intrinsic tumours. After 1940, with the rise of the antibiotic era and some progress in surgery, radical laryngeal surgery with or without neck dissection was used for more advanced lesions [3-5].

Radiotherapy in the cancer of larynx

Early attempts to treat laryngeal cancer were performed by the application of radium tubes, sealed in containers, directly into the lumen of the larynx. This treatment often injured rather

than helped patients. To screen the radium and ensure that the dose was evenly distributed throughout the tumour, Louis Ledoux in 1924 reported his technique that made a window in the wing of the thyroid cartilage and inserted radium needles directly at right angles into the tumour [6]. This method carried a risk of spreading the tumour and thus Neville Samuel Finzi and William Douglas Harmer of London modified the Ledoux technique in 1928 by placing the radium needles over the intact perichondrium [7]. The widespread general application of radium therapy in the treatment of laryngeal cancer was made possible by the development of the telecurie therapy apparatus in the period from 1925 to 1935. A precursor of telecurie therapy was the radium collar where a radium source was contained in a low-density material like wax, leather, or rubber. Radiotherapy entered the modern megavoltage era with the development of cobalt-60 sources, betatrons, and linear accelerators in the early 1950s [8].

Conclusion

There is no doubt that the diagnostic delay decisively conditioned the prognosis of Giacomo Puccini's laryngeal cancer. The oncologic and surgical knowledge of the early 1900s and the difficult approach to laryngeal surgery in a celebrity determined the therapeutic choice in Puccini. Today, endoscopic examination would have allowed earlier diagnosis with better outcomes. A contemporary approach today would include partial laryngectomy with neck dissection or an organ salvage protocol would have allowed for good oncologic and functional outcomes.

References:

1. Adami G. *Il Romanzo Della Vita di Giacomo Puccini*, 3rd edn. Milan, Italy; Rizzoli e C; 1942: 235-55.
2. Carner M. Giacomo Puccini. In: *Biografia Critica*. Milan, Italy; Casa Editrice il Saggiatore; 1961: 325-33.
3. Marchese-Ragona R, Marioni G, Staffieri A. The unfinished Turandot and Puccini's laryngeal cancer. *Laryngoscope* 2004;114:911-31.
4. Thomson St. C. The history of the cancer of the larynx. *J Laryngol Otol* 1939;54:61-87.
5. Devine K. Laryngectomy: vicissitudes in the development of a good operation. *Arch Otolaryngol* 1963;68:816-25.

6. Ledoux L. Traitement curie-chirurgical du cancer laryngé. *Cancer (Brux)* 1924;1:100-6.
7. Finzi NS, Harmer WD. Radium treatment of intrinsic carcinoma of the larynx. *Br Med J* 1928;2:886-9.
8. Lederman M. History of radiotherapy in the treatment of cancer of the larynx, 1896-1939 *Laryngoscope* 1975;85:333-53.