



The disease of Sigmund Freud: oral cancer or cocaine-induced lesion?

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Abstract

Purpose Sigmund Freud, the father of modern psychoanalysis, suffered from what was considered to be a malignant tumour spreading from the back of his palate. He underwent numerous surgical interventions and radiation therapy over the course of 16 years. Such a long survival casts a shadow of doubt on the diagnosis of oral cancer that was given to Freud.

Methods The book “Freud: Living and Dying”, in which the personal physician of Freud described in detail his patient’s fight with oral cancer, was reviewed. Current and past evidence, as well as epidemiological data, on oral cancer and cocaine-induced midline destructive lesions were also reviewed.

Results Tobacco and cocaine are both responsible for oral lesions and Freud was a dedicated cigar smoker as well as a user and defender of cocaine. Freud’s medical records indicate that the main cause of Freud’s oral disease was excessive smoking. On the other hand, the diagnosis of oral cancer does not seem to be entirely consistent with the 16-year-long survival of Freud. Freud used cocaine regularly in the 1890s, as reported by his personal physician, and it is possible that he continued taking it beyond that time period without feeling the need to inform his doctor.

Conclusions It is possible that the lesion that progressively and very slowly eroded the splanchnocranial structures of Freud was not a bona-fide cancerous malignancy, but rather, the necrotizing effect of cocaine use that has been previously reported to be responsible for some massive facial destructive lesions.

Keywords Oral cancer · Cocaine-induced midline destructive lesions · Sigmund Freud · Oral cancer survival

Introduction

Sigmund Freud, the father of modern psychoanalysis, died on September 23, 1939. His splanchnocranium had been consumed by what was considered to be a tumour spreading from the back of his palate [1]. From 1928 until his death, Freud was assisted by Dr. Maxim Schur, his personal physician. Dr. Schur was a Viennese internist and psychoanalyst who described in detail Freud’s 16-year-long fight with oral cancer in the book “Freud: Living and Dying” [1]. This fascinating memoir, along with other historical accounts, portrays Freud as a dedicated cigar smoker as well as a user and defender of cocaine [1–3]. Tobacco and cocaine are

both responsible for oral lesions: tobacco causes malignant transformation of the oral mucosa, while cocaine may per se destroy the nasal oral linings and their support tissues by triggering massive apoptosis [4–6].

Freud’s unusually long survival to a disease that was officially labelled as oral cancer raises the question whether Freud’s progressive oral destructive lesions were just the outcome of cocaine-induced damage rather than the result of an oral malignancy.

The disease of Sigmund Freud

Freud’s disease began in 1917, as a painful swelling of the soft palate. He attributed its appearance to the temporary cessation of smoking he had to endure during World War I when cigars had become hard to find. The swelling disappeared when he restarted smoking, and the lesion did not cause him any disturbance until 1923 when it became ulcerated. Only then Freud sought medical attention [1].

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The first physician who performed surgery on Freud's oral disease was Prof. Marcus Hajek, known and respected for his research on sinus pathology and for the delimitation of the "Hajek's triad" (mucosal dryness, septal deviation and infection) as a cause of nasal septal perforation [1].

Freud's first operation took place on April 20, 1923. Unfortunately, the surgeon neglected to establish whether the surgical margins were disease-free and the supposed tumour was only partially removed [7]. The postoperative period was marred by severe nocturnal haemorrhage that was left untreated to an almost fatal extent, due to lack of attendance by nurses and doctors at the clinic where Freud was admitted [8]. After surgery, he received radiation therapy that was performed haphazardly, even in consideration of the lower treatment standards available at the time. Tissue damage and severe pain followed the therapy [1].

Five months later, recurrence of the disease in the form of an ulcer on the posterior aspect of the right maxilla prompted new surgical evaluation that was, this time, performed by an oral surgeon, Prof. Pichler, who decided to operate again. During World War I, Pichler developed his surgical know-how through operating on a large number of injured soldiers. He attempted daring procedures with generally excellent results. His aggressive approach also benefited Freud, whose surgery was accurately planned on cadaver specimens [7]. A maxillary and a mandibular prosthesis were also crafted to correct the defects that would have followed the operation [9]. Pichler kept precise notes of his surgical procedures and visits to Freud, and many of his observations are reported in Dr. Schur's book [1].

On October 4, 1923 Pichler performed extensive neck dissection and the external carotid artery was ligated. Histological examination of the surgical specimen did not identify signs of malignancy. Eight days later, under local anaesthesia, he resected a large portion of the right maxilla, part of the mandible, the right soft palate and the buccal and lingual mucosae. Three weeks later, a small ulcer in the area of the right pterygoid process appeared, and a biopsy revealed that the tissue in that area was malignant. The two agreed courageously to operate again, for a third time. That same afternoon, Pichler performed further resection of the mandible and surrounding tissues [1, 10].

Following the first three surgical operations, Freud underwent more than 30 procedures by excision or electrocoagulation, aimed at removing many recurrent lesions labelled alternatively as leucoplakias, proliferations, or precancerous lesions. On many occasions, radiation therapy, or topical applications of radium were administered after surgery [1].

In 1936, 13 years after the first surgical treatment and 19 years after the appearance of the war-time swelling, a new lesion appeared that was diagnosed as malignant with no clear definition of its pathology. After excision of this lesion under local anaesthesia, in 1937, another benign recurrence

appeared, followed in 1938 by another, located this time in a poorly accessible site in the oral–nasal cavity. In 1938, Freud underwent his last surgery by Prof. Pichler. In 1939, the area of his right zygomatic bone became necrotic and eventually there was a fistula between the oral cavity and the skin. Dr. Schur used this new access to the cavity to insufflate Orthoform, a topical painkiller derived from cocaine. Close to the necrotic area a new area of swelling suggested recurrence of the disease. A biopsy indicated malignancy, but surgery was technically impossible; therefore, Freud once again underwent radiation therapy [1, 2].

On September 21, 1939, feeling that his time had come, Freud asked his friend Max Schur to not let him suffer unnecessarily. Freud was administered 200 mg of morphine and 200 mg more after 12 h. Freud fell into a coma and died shortly thereafter [1, 10].

An open question

The pathologist who examined Freud's surgical specimens, his doctor and his surgeon, all agreed that the main cause of Freud's oral disease was excessive smoking [1, 7, 11]. At present, the relationship between smoking and the development of oral cancer is well established [7]. Tobacco, in fact, can cause malignant transformation of the oral epithelium [12]. Freud was a dedicated cigar smoker and could not abstain from tobacco for long periods of time. He also affirmed that he could not do creative work without smoking [1, 7]. Those facts seem to support the fact that Freud suffered from oral cancer and recurrent leucoplakias or precancerous lesions caused by smoking [1]. On the other hand, the diagnosis of oral cancer does not seem to be applicable to the 16-year-long survival of Freud.

According to the American Cancer Society, 33,950 people are estimated to be newly diagnosed with oral cancer in 2018 [11], and the overall 5-year survival rate in the 2008–2014 period was 64.8%, 65% for locally extended disease and 39.1% for advanced disease [13]. From 1975 to 1977, the overall 5-year survival rate was 53%, and since the 1960s, overall survival has increased by approximately 15% [14]. An account of the survival of patients treated from 1929 to 1945 at Toronto General Hospital reports a 5-year survival rate of 37.6%, 29.2% for stage III and 8.9% for stage IV [14]. The data presented in this paper could be the most accurate to describe the survival rates at Freud's time, because it refers to patients treated with both surgery and radiotherapy, but it should be remembered that only data coming from a single centre was published, and not data collected on a national scale. This information on oral cancer survival rates casts, however, a shadow of doubt on the diagnosis of oral cancer that was given to Freud.

Another element of doubt comes from the notion that Freud was a cocaine user [1, 2]. Cocaine is frequently inhaled from the nose, and nasal and oral complications are therefore common [15].

Cocaine, like tobacco, is responsible for oral lesions as it destroys the oral lining and support tissues by triggering massive apoptosis and by stimulating production, in predisposed patients, of anti-neutrophil cytoplasmic antibodies (ANCA), particularly those reacting with human neutrophil elastase (HNE) [15]. Cocaine-induced midline destructive lesions (CIMDL) usually present with a long history of symptoms such as nasal obstruction, epistaxis and severe facial pain [6]. Clinical findings include necrotic and ulcerating lesions, extensive crusting, destruction of turbinates and the nasal lateral walls, and hard and soft palate perforations [6].

In 1884, Freud published “Über Coca”, which was an analysis of the pharmacological properties of cocaine [16, 17]. He tested the drug on himself for several months and described its analgesic potentiality, its capacity to affect the general mood and its anaesthetic power [1, 3].

Freud used cocaine to treat sinusitis, under the advice of his friend Wilhelm Fliess, and he also thought that it could be used to treat morphine addiction [1]. Schur reports that Freud took cocaine regularly in the 1890s, but eventually discontinued its use [1]. However, considering Freud’s familiarity with the drug and the fact that he used it to treat his chronic nasal symptoms, it is possible that he continued taking it without feeling the need to inform his doctor.

Erosions and inflammation caused by cocaine can mimic the development of an erosive neoplasm, both macroscopically and microscopically [18].

It is possible that the lesion that progressively and very slowly eroded the splanchnocranial structures of Freud was not a bona-fide cancerous malignancy, but rather the necrotizing effect of cocaine use that has been reported to be responsible for massive facial destructive lesions [5]. However, we are aware that our doubts and speculations are only supported by general epidemiological data and not by newly discovered original manuscripts or medical records about Freud. On the contrary, most historians believe, on the basis of currently available documents, that Freud stopped using cocaine in the 1890s [1]. Nonetheless, new findings on CIMDL, a condition that has emerged epidemiologically only in the last decades with global large-scale consumption of cocaine, offer a new perspective on Freud’s relationship with cocaine that deserves further historical investigation.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflict of interest.

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