



## Response to: Oral cancer of Sigmund Freud

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Historical accounts on Sigmund Freud's oral disease repeatedly report that histopathological examination of Freud's oral lesions was diagnostic for malignant neoplasm, as we have thoroughly recounted in our communication [1]. Indeed, a diagnosis of squamous cell carcinoma was formulated after Freud's first surgery in 1923 by the pathologist Jakob Erdheim [2], still known today for his contribution to the identification of Erdheim–Chester disease [3]. This diagnosis, as we have described, is conflicting with the long survival of the patient (16 years) [1]. Since Freud was a habitual cocaine user we hypothesized that his condition could be attributed to the necrotizing effect of cocaine abuse. Other authors have theorized that Freud actually suffered from verrucous squamous cell carcinoma [4], a clinico-pathological entity that was first recognized a few years after Freud's death [5]. Indeed, considering the historical accounts reviewed in both works, a diagnosis of verrucous squamous cell carcinoma can be reasonably taken into account. Historical evidences, particularly the long smoking history of the patient and the histopathological diagnosis of squamous cell carcinoma, make the diagnosis of verrucous carcinoma seem more plausible. However, we do not share the absolute confidence in this hypothesis shown by its advocates in their comment to our communication as we are, likewise, not unconditionally convinced about our theory. Indeed, both diagnoses have been proposed posthumously without having access to the histopathological specimens and solely based on historical accounts [1, 4]. Available data do not provide conclusive evidence in favor of neither verrucous carcinoma nor cocaine-induced lesion [1, 4]. It can be reasonably affirmed that in the absence of further

conclusive evidence, such as histopathological revision of surgical specimens, both theories deserve to be taken into consideration.

### Compliance with ethical standards

**Conflict of interest** The authors declare no funding source and no conflict of interest.

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