

## Hospital dental care for a post-cerebral infarction patient

*Assistência odontológica hospitalar a paciente pós-infarto cerebral*

*Atención dental hospitalaria para pacientes con infarto cerebral*

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### Abstract

Stroke presents as a deficiency of cerebral blood supply lowering the oxygen level and increasing the chance of irreversible tissue damage being such severity proportional to the extent and type of tissue injury, requiring immediate multiprofessional support. Thus, the objective is to present a clinical case of a 85-year-old female patient with stroke who underwent invasive dental treatment to eliminate the foci of infection and comfort to the patient concomitant to the hospitalization.

**Descriptors:** Cerebral Infarction; Dental Care; Dental Service, Hospital; Ambulatory Care.

### Resumo

O acidente vascular cerebral apresenta-se como uma deficiência do suprimento sanguíneo cerebral, diminuindo o nível de oxigênio e aumentando a chance de dano irreversível ao tecido, sendo essa gravidade proporcional à extensão e ao tipo de lesão tecidual, exigindo apoio multiprofissional imediato. Assim, o objetivo é apresentar um caso clínico de uma paciente de 85 anos de idade com acidente vascular cerebral submetida a tratamento odontológico invasivo para eliminar os focos de infecção e conforto ao paciente concomitante à hospitalização.

**Descritores:** Infarto Cerebral; Assistência Odontológica; Unidade Hospitalar de Odontologia; Assistência Ambulatorial.

### Resumen

El accidente cerebrovascular se presenta como una deficiencia del suministro de sangre cerebral que reduce el nivel de oxígeno y aumenta la posibilidad de daño irreversible en los tejidos, ya que la gravedad es proporcional a la extensión y el tipo de lesión tisular, lo que requiere un apoyo multiprofesional inmediato. Por lo tanto, el objetivo es presentar un caso clínico de una paciente de 85 años con accidente cerebrovascular que se sometió a un tratamiento dental invasivo para eliminar los focos de infección y la comodidad del paciente concomitante a la hospitalización.

**Descriptores:** Infarto Cerebral; Atención Odontológica; Servicio Odontológico Hospitalario, Atención Ambulatoria.

### INTRODUCTION

Stroke is an alteration in the brain's blood supply and can be classified as ischemic or hemorrhagic. Symptoms have a sudden onset and may cause the death of the subject. Stroke is the second leading cause of death worldwide, accounting for 6.7 million deaths in 2012<sup>1</sup>. In Brazil, the main causes of death are the cerebrovascular diseases, followed by acute myocardial infarction<sup>2</sup>.

Several are the risk factors that cause cerebrovascular diseases in patients. In this regard, the oral condition is often associated with such diseases, in which the presence of periodontopathogenic microorganisms, especially the *P. gingivalis*, may be associated with hemorrhage and cerebral infarction<sup>3</sup>, as well as with the development and the progress of atherosclerosis<sup>4</sup>.

Current studies have investigated the relationship between chronic and oral systemic conditions. The most common oral condition related to systemic chronic diseases is periodontitis, especially when associated with type 2 diabetes mellitus and cardiovascular disease, often having smoking, older age, male gender and overweight as risk factors<sup>5</sup>.

### CLINICAL CASE

Thus, an 85-year-old female patient, hospitalized after suffering a stroke, presented oral cavity myiasis, with unpleasant odor, according to the records. Therefore, the physicians asked for an evaluation from the hospital dental care team and, after performing the evaluation, the presence of

larvae was discarded. However, the patient had very poor oral hygiene, presenting root fragments and mobile teeth, biofilm accumulation, tongue coating, and extensive ulcer on the lateral edge of the tongue, presenting with raised edges and depressed and irregular-shape central area. The patient also had a hard, pedunculated, smooth-surface palate lesion, pink in color and with no bleeding during manipulation. Due to the severity presented by the patient, associated with the several oral complications, with imminent outbreaks of infection and worsening of the general condition, the hospital dental team decided to treat the overall oral cavity, performing surgery of the mouth ulcerations in the surgical center. Therefore, a cardiac risk assessment of the patient was requested, showing a high-risk response, excluding the possibility of general anesthesia. Thus, sedation, under constant monitoring, was recommended and was carried out in the surgery room.

The blood pressure was 210 X 100mmHg, and the patient was dehydrated, hypocolored, eupneic, presenting hypophonic normorhythmic sounds, isochoric pupils, rhyme deviation, with reduced limb muscle strength, being confused and non-collaborative. Blood tests showed a slight increase in erythrocytes and hemoglobin and a significant increase in creatine phosphokinase MB fraction of 142.90U/L.

The initial intervention proposal was to wear the lingual cusps of the upper and lower left molar teeth, which configured the etiological factor of the

tongue ulcer. Four days after the completion of this procedure, there was complete remission of the continuity solution. Subsequently, the upper teeth were extracted as they presented a high amount of plaque, great mobility and caries, and the excisional biopsy of an exophytic hard palate lesion showed inflammatory lesion with no malignant aspects (Figure 1).



Figure 1: Clinical evaluation. (A and B) Initial Clinical Aspect. Extensive ulcer on the lateral edge of the tongue, residual roots, mobile teeth. (C) Clinical improvement, absence of ulcerated lesion after lingual molar cusp wear. (D and E) Sur

## DISCUSSION

As reported by Silva<sup>6</sup>, the literature shows that the treatment of patients after stroke should be multiprofessional. The hospital dental-surgeon, set in a multidisciplinary team, plays a fundamental role in the care of these patients; as such patients may present several levels of difficulty in performing daily activities such as care related to the maintenance of the oral health.

As evidenced in an article by Patrocínio et al.<sup>7</sup>, the treatment of oral ulcers in immunosuppressed patients is an urgent need; along with it, the removal of infectious foci in hospitalized patients is a highly important condition in order to avoid cardiovascular and pulmonary complications<sup>8</sup>.

Factors such as age and tobacco use, as well as significant changes in the systemic blood pressure and in laboratory tests such as the C-reactive protein, associated with oral alterations presented by the patient, are the main causes of stroke, as shown by Noack et al.<sup>9</sup>

Dental care for hospitalized patients is essential to improve their quality of life. This fact corroborates the findings in the literature that mention that dental care, provided to systemically

compromised patients, may reduce morbidity and mortality<sup>4,10</sup>, which makes us believe that the dental care provided to the patient decreased the foci of infection in the oral cavity associated with the teeth, as well as decreased the ulcerated lesions that caused severe and intense pain symptoms, thus reducing the patient's quality of life.

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### **CONFLICTS OF INTERESTS**

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The authors declare no conflicts of interests.

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