

Comprehensive dental treatment under general anaesthesia

Trattamento odontoiatrico completo in anestesia generale

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ABSTRACT

OBJECTIVES. Patients unable to tolerate routine dental treatment in an ordinary dental setting may undergo a wide range of dental procedures under general anaesthesia. This report describes a practical protocol for providing full dental treatment under general anaesthesia.

MATERIALS AND METHODS. The importance of adequate treatment planning and safety measures is illustrated through the presentation of clinical cases.

RESULTS. Suggestions are provided as to the use of techniques managing difficult treatment settings that allow the implementation of high-quality dental care in long sessions.

CONCLUSIONS. Complete treatment can be achieved in a single visit, thus avoiding repeated risk of anxiety for the patient associated with the treatment as well as subsequent further sessions with related schedule adjustment.

KEY WORDS

- ▶ General anaesthesia
- ▶ Dental phobia

- ▶ Gag reflex
- ▶ Handicapped patients
- ▶ Special care dentistry

RIASSUNTO

OBIETTIVI. I pazienti che non tollerano i trattamenti odontoiatrici di routine secondo le consuete modalità possono essere sottoposti a una vasta gamma di procedure odontoiatriche in anestesia generale. Viene descritto un protocollo pratico per eseguire un trattamento odontoiatrico completo in anestesia generale.

MATERIALI E METODI. L'importanza di un'adeguata pianificazione del trattamento e delle misure di sicurezza viene spiegata attraverso la presentazione di casi clinici.

RISULTATI. Si forniscono suggerimenti circa le tecniche per la gestione di trattamenti complessi che consentono di attuare cure odontoiatriche di alta qualità in sedute di lunga durata.

CONCLUSIONI. Le tecniche descritte consentono di eseguire un trattamento completo in una sola seduta, eliminando in tal modo il problema di affrontare più volte

l'ansia associata al trattamento stesso e di ricorrere a numerosi appuntamenti con le relative difficoltà di pianificazione.

PAROLE CHIAVE

- ▶ Anestesia generale
- ▶ Odontofobia

- ▶ Riflesso faringeo
- ▶ Pazienti portatori di handicap
- ▶ Odontoiatria speciale

1. INTRODUCTION

General anaesthesia (GA) is used in dentistry to enable treatment of individuals who are reluctant to or incapable of undergoing dental care due to various medical, physical or psychological conditions [1]. The general dental practitioner is likely to encounter patients seeking GA because of dental phobia, gag reflex or failure of local anaesthesia to control pain [2]. Table I provides a list of indications for the administration of dental treatment under GA. Most of these cases

can also be cured under suitable degrees of sedation, however when comprehensive dental rehabilitation is needed, GA is generally the best option due to the long duration of the treatment session.

Although complications and side effects following GA may occur, mortality is very rare. A follow-up of 5 years over 17,557 dental treatments under GA, including pediatric, special needs and minor oral and maxillofacial surgery procedures, revealed an incidence of morbidity requiring transfer to a hospital with overnight stay facilities of 0.13% and no cases of mortality [3]. Seven retrospective reviews found an overall dental GA mortality rate of 1/835,000 [4]. Between 1973 and 1995, four deaths were registered among 2,830,000 patients receiving dental treatment with GA or intravenous sedation associated with cases in which either an oral and maxillofacial surgeon or a dental anaesthetist administered GA or deep sedation, yielding a mortality rate of 1 per 700,000 [5]. Another study reported a decrease in office-based dental GA deaths from 1/200,000 in 1952 to 1/2,000,000 in 1990 [6].

GA administered by an anaesthesiolo-

gist enables these patients to undergo a wide range of dental procedures including restorative and surgical ones in a single visit. However, the clinician performing dental treatment under GA often faces considerable therapeutic challenges (table II). The special requirements for the performance of dental treatment under GA have been widely recognized [7-9]. In the past, the use of GA was restricted to surgical procedures, in particular exodontias. However, comprehensive oral rehabilitation under GA has been increasingly recognized as an option for special need patients [10,11] and healthy individuals [7,12,13]. To the best of our knowledge, there are no publications providing guidelines to carry out the peri-operative dental procedures for comprehensive oral rehabilitation under GA.

This article presents a practical protocol that was formulated to overcome some difficulties in dental treatment performed under GA, and to increase its safety and effectiveness. The protocol was developed as a result of the vast experience gained by our staff over the past 20 years in treating around 1,000 patients. A few cases will be presented in order to illus-

Tab. I Indications for dental treatment under general anaesthesia

▶ Medical
Dementia
Cerebrovascular disease
Schizophrenia
Unspecified mental disorder
Mental retardation
Autism
Down's syndrome
Head injury
Diseases of the nervous system, e.g.,
– Parkinson's disease
– Epilepsy
– Cerebral palsy
– Underlying complex systemic diseases
▶ Physical
Physical disability
Limited mouth opening
Physiological or anatomical abnormalities, e.g.,
– Dysphagia
– Cleft palate
▶ Social
Time and lifestyle constraints
▶ Psychological
Post-traumatic stress disorder (PTSD)
Dental phobia
Needle phobia
▶ Other
Gag reflex
Local anaesthesia failure

Tab. II Challenges to the dental practitioner performing dental treatment under general anaesthesia

▶ Unfeasibility to perform preliminary examination and design a treatment plan
▶ Small space for operative procedures due to the presence of the pharyngeal tube and pack and/or limitation of mouth opening
▶ Risk for soft tissue injury
▶ Gingival bleeding due to poor oral hygiene
▶ Combination of surgery with conservative procedures at the same session
▶ Paralleling crown and bridge preparations in the posterior regions

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