

The aim of the study was to give a short review of systematic side-effects, their pathophysiology, clinical appearance and therapy, which the dentist should apply in the dental surgery until the arrival of urgent medical help.

We classified systematic side-effects into: psychogenic reactions, toxic reactions, reactions to vasoconstrictors and reactions of hypersensitivity.

The most frequent clinical presentation of psychogenic reaction is syncope, a consequence of vasovagal reactions or hyperventilation. The condition requires the cessation of the dental operation and placing the patient in Trendelenburg's position.

Toxic reactions occur when the concentration of anaesthetic in the blood exceeds the minimal toxic concentration. They can occur in the case of overdosing and intravascular application of the anaesthetic. Toxicity can be interpreted in the central nervous and cardiovascular system. Involvement of the cardiovascular system can be seen in AV block of different degrees or asystolia, which requires resuscitation. Toxic reactions in CNS are interpreted as excitation or depression. The most serious presentations of excitation are clonic-tonic cramps, which are halted by intravenous application of diazepam. Respiratory depression requires mechanical ventilation of the patient.

Reaction to vasoconstrictors is the result of the stimulation of adrenergic receptors in the cardiovascular system, and symptoms are transient raised frequency of cardiac and blood pressure, and also arrhythmia. In the case of mild symptoms the patient should be sedated and kept under observation, and in the case of significantly raised blood pressure medication therapy applied.

Reactions of hypersensitivity may be local or systemic. Local reactions involve changes on the skin and mucous membrane such as erythema and urticaria, and they require intramuscular application of an antihistaminic. Systematic hypersensitivity includes laryngo-broncho spasm with a fall in blood pressure. The therapy choice is intravenous application of adrenaline, antihistaminic and corticosteroids and ventilation of the patient with 100% oxygen.

Algorithm of clinical procedure is proposed for easier differential diagnosis and therapy.

Primjena hiperbarične oksigenacije u oralnoj kirurgiji

Ivan Zajc¹, Mario Franolić²

¹Klinika za maksilofacijalnu kirurgiju, Zagreb

²Poliklinika za baromedicinu OXY, Pula, Zagreb

Sažetak

Hiperbarična oksigenacija (HBO) kao metoda liječenja ima svoju primjenu i u oralnoj kirurgiji. Udisanjem čistoga kisika pod povećanim tlakom u tkivima nastaje višestruko povećana količina kisika. Na taj se način uklanja hipoksija koja se u mnogim patološkim stanjima redovito javlja kao uzrok ili posljedica. Čitav niz fizioloških mehanizama se normalizira i poboljšava. Poboljšava se perfuzija tkiva i mikrocirkulacija zbog reodinamskoga djelovanja i neoangiogeneze. Poboljšava se metabolička aktivnost na subcelularnoj razini. HBO regulira lokalni i opći imunitet. Djeluje antibakterijski, pogotovo na anaerobe, što je jako važno u oralnoj infekciji. Osim toga djeluje sinergistički s antibioticima i u slučajevima infekcija s rezistentnim mikroorganizmima.

U oralnoj kirurgiji HBO se može primijeniti u liječenju akutnih i kroničnih upala mekih tkiva i čeljusti te kod tumorskih pacijenata koji su zračeni. Važna je u preventivi prije različitih zahvata i kod imunokompromitiranih kroničnih pacijenta (dijabetes, jetra, bubrezi i dr.). Osobito je to važno prije zahvata na kostima (ekstrakcija, rekonstrukcija defekta, implantati i sl.).

Kako su kontraindikacije malobrojne, nuspojave praktično zanemarive, a korist u zdravstvenom i financijskom pogledu (cost benefit) neusporedivo veća, to se može reći da je HBO terapija vrlo važno, moćno i suvremeno sredstvo liječenja, koje od nedavno imamo u Zagrebu u KB "Dubrava".

Application of Hyperbaric Oxygenation in Oral Surgery

Ivan Zajc¹, Mario Franolić²

¹Clinic for Maxillofacial Surgery, Zagreb

²Polyclinic for Baromedicine OXY, Pula, Zagreb

Summary

As a method of treatment hyperbaric oxygenation also has its application in oral surgery. Inhalation of pure oxygen under increased pressure leads