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Veliki hematom obraza kao komplikacija lokalne anestezije: prikaz slučaja

A Large Cheek Hematoma as a Complication of Local Anesthesia: Case Report

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Sažetak

Hematom je među rjedim komplikacijama pri davanju lokalnog anestetika. Najveća incidencija aspiracije krvnog sadržaja tijekom primjene svih infiltracijskih i provodnih tehnika lokalne anestezije u oralnoj kirurgiji vezana je za tubernu i provodnu anesteziju na donji alveolarni živac. Prikazujemo do sada zdravog dječaka u dobi od 8 i pol godina kod kojega se pojavio veliki hematom obraza nakon rutinski aplicirane infiltracijske anestezije u gornjoj čeljusti. Najprije je pogrešno liječen pod dijagnozom tipa 1 alergijske reakcije, a zatim nije bila uspješna ni lokalna terapija heparinskom kremom. Konačno su u liječenje uvrštene ključna incizija i drenaža inficiranog hematoma. Shvatiti da je hematom moguća komplikacija, rano prepoznati njegovu kliničku sliku i odabrati odgovarajuće liječenje, vrlo je važno za siguran i brz ishod.

Zaprimljen: 18. travnja 2018.
Prihvaćen: 3. lipnja 2018.

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Ključne riječi

gornja čeljust; lokalna anestezija; anestezija u stomatologiji; hematom; obraz

Uvod

Suvremeni lokalni anestetici kojima se koristimo u svakodnevnoj praksi mogu se smatrati sigurnima i učinkovitim u osiguravanju bezbolnosti operativnog područja. Dobro uzeta anamneza i odabir vrste lokalnog anestetika smanjuju pojavnost njegova neželjenog alergijskog učinka. No osim o lokalnom anestetiku, vrlo je važno voditi brigu i poznavati tehnike davanja lokalne anestezije. Naime, nepoznavanje tehnike i anatomske strukture te loš odabir instrumentarija za lokalnu anesteziju znatno povećavaju incidenciju komplikacija (1). Komplikacije pri aplikaciji lokalne anestezije u orofacijalnom području mogu biti lokalne ili sistemske. Od sistemskih najčešće su alergijska reakcija (tip 1) i vazovagalna reakcija na aplikaciju. Najčešće lokalne komplikacije uključuju paresteziju anesteziranog živca ili njegova ogranka, paralizu ličnoga živca, trizmus, ozljede mekih tkiva anesteziranog područja te hematoma, a rjeđe infekciju.

Prikaz slučaja

U ambulantu oralne kirurgije Klinike za kirurgiju lica, čeljusti i usta došao je dječak u dobi od 8 i pol godina u pratnji majke. Do tada je bio zdrav, pri ozljeđivanju nisu bila uočena produljena krvarenja ni stvaranje hematoma. Majka je navela

Introduction

Modern local anesthetic agents in everyday practice are thought to be safe and efficient in providing an analgesic operating field. A thorough medical history and the appropriate choice of local anesthetic lower the chance of an unintended allergic reaction. Apart from the type of anesthetic being chosen, it is nearly important to take care of the infiltration technique being applied. Ignorance of the techniques and anatomic structures and poor selection of the armamentarium greatly increase the incidence of adverse reactions and complications (1). Complications after local anesthetic infiltration in the orofacial region can be local and systemic. The latter most frequently include type 1 allergic reaction and a vasovagal syncope. Most common local complications are paresthesia of the nerve being anesthetized, facial nerve paralysis, trismus, soft tissue lesions, hematomas and, rarely, infection (2, 3).

Case report

An 8-year-old boy accompanied by his mother was referred to the Department of Oral and Maxillofacial Surgery at University Hospital Dubrava, Zagreb by his general dental practitioner. Prior to the visit, the boy had a clear medical history.

da je osam dana prije dolaska u našu ambulantu dječaku aplicirana injekcija lokalnog anestetika kod izabranog stomatologa zbog vađenja gornjega desnog mliječnog očnjaka. Odmah nakon toga pojavila se otekлина na desnoj strani lica te je prevezen u hitnu službu lokalnoga Doma zdravlja pod sumnjom da je riječ o alergijskoj reakciji (slika 1.). Dječak se nije žalio na otežano disanje niti je gubio svijest. Pri obradi pacijenta u navedenoj službi ordiniran je Solumedrol u nepoznatoj dozi, uz preporuku za daljnji pregled u hitnoj otorinolaringološkoj (ORL) ambulanti. Pacijent je zatim pregledan u KBC-u Sestre milosrdnice u Zagrebu te mu je preporučena topikalna terapija heparinskom masti. Četiri dana nakon aplikacije lokalnog anestetika pojavila se lokalna bakterijska infekcija. Privatni stomatolog odlučio se za intraoralnu inciziju i drenažu sadržaja te je ordinirao antibiotsku terapiju (Klavocin bid sirup 2 x 10 mL). Prema riječima majke, jer nema pisanoga traga navedenog stomatologa, drenažom je izvučen gnojno-krvavi sadržaj. Nakon zahvata lokalna otekлина počela je splašnjavati, a hematoma regresirati (slika 2.) Na kontrolnom pregledu u našoj ambulanti osam dana poslije incidenta, još

According to his mother's testimony no prolonged bleeding or hematoma formation could have been observed spontaneously or after trauma. Eight days before coming to our office a local anesthetic had been given to the boy by his dentist with the intention of the right maxillary deciduous canine extraction. An immediate swelling of the right cheek could have been observed without evidence of breathing problems or impaired consciousness (Figure 1). The boy was, subsequently, transferred to the local emergency unit of Health center with a suspected allergic reaction. A systemic corticosteroid (Solumedrol) of unknown dose was administered and an additional visit to an ear, nose and throat specialist was advised. The patient was then examined by an ENT specialist at Sestre milosrdnice University Hospital Center, Zagreb, Croatia and a topical heparin therapy was advised. Four days after the initial anesthetic application an acute bacterial infection ensued. A local private dentist decided to perform an intraoral incision and drainage. Also, he prescribed an antibiotic therapy (clavulanic acid + amoxicillin, 10mL twice daily). According to his mother's words, the private dentist managed to evacuate some sanguino-



Slika 1. Izgled pacijentovog obraza prvog dana nakon primjene anestetika (fotografija pacijentove majke)

Figure 1 The appearance of the patient's cheek on the first day after local anesthetic was applied (Photo courtesy of patient's mother)

Slika 2. Izgled pacijentovog obraza peti dan nakon incidenta. Napravljena je incizija i ordiniran je antibiotik dan ranije (fotografija iz privatne kolekcije pacijentove majke).

Figure 2 The appearance of the patient's cheek on the fifth day after the incidence. The incision was made and the antibiotic therapy administered the day before. (This photo belongs to family photo collection and is given by courtesy of patient's mother).

Slika 3. Hematom se smanjuje nakon 8 dana

Figure 3 Hematoma started to fade eight days after the incident.

Slika 4. Nestanak hematoma nakon dva tjedna

Figure 4 Hematoma resolution after two weeks.

uvijek se vidjela diskretna otekline te obrisi hematoma u regiji od infraorbitalne regije do juguluma (slika 3.). Dodatna terapija nije bila potrebna i za dva tjedna hematoma je potpuno nestao (slika 4.).

Rasprava

Premda je korištenje suvremenih lokalnih anestetika sigurno, uvijek je potreban najveći mogući oprez pri pravilnom odabiru vrste lokalnog anestetika, a potrebna je i ispravna tehnika davanja. To uključuje i apliciranje minimalne djelotvorne doze za određeni stomatološki postupak. Tijekom svakog davanja lokalne anestezije, kako infiltracijske (pleksusne anestezije) tako i provodne, vrlo je važan postupak aspiracije (1) kako bi se izbjeglo neželjeno sistemsko djelovanje anestetika i povećala njegova lokalna učinkovitost. Poznato je da je pri davanju tuberne i provodne anestezije za donji alveolarni živac veća učestalost aspiracije krvnog sadržaja (4). Također treba istaknuti da pozitivan nalaz u tom slučaju znači da je lokalni anestetik najvjerojatnije apliciran intravaskularno, a negativan nalaz ne znači nužno da lokalni anestetik neće biti injiciran u krvnu žilu.

Nastanak hematoma kao komplikacije tijekom aplikacije lokalnog anestetika posljedica je laceracije krvne žile, vene ili arterije. Kao posljedica laceracije arterije hematoma nastaje naglo i neugodan je i za pacijenta i za terapeuta. Povećani intraarterijski tlak uzrokuje efuziju krvnog sadržaja u meka tkiva. Veličina hematoma ovisi o gustoći tkiva zahvaćenog krvnim izljevom. Njegov rast prestaje onog trenutka kada se izjednače tlakovi sadržaja u tkivu i tlak u žili. U slučaju da je riječ o laceraciji vene, ne mora nužno nastati hematoma. S velikom sigurnošću može se zaključiti da se u prikazanom slučaju dogodila laceracija arterije. Anatomski gledano, možda se radilo o ogranku gornje labijalne arterije, distalnom ogranku infraorbitalne ili proksimalnom dijelu angularne. U ovakvim i sličnim situacijama također treba razmišljati o mogućem podležućem hemangiomu, što je kod ovog pacijenta isključeno kliničkim pregledom nakon regresije hematoma i uvidom u ortopantomogram. Na osnovi toga zaključili smo da pacijenta ne treba uputiti na dodatne pretrage kao što je MSCT angiografija. Nadalje, isključena je i hemofilija kao potencijalni uzrok pa dječaka nismo poslali na dodatne laboratorijske pretrage. Na kraju istaknimo da je najvažnije prepoznati kliničku situaciju te neodgodivo početi s liječenjem, što uključuje kompresiju područja hladnim oblozima izvana i ordiniranje antibiotske terapije (5). Tako se sprječava daljnji rast hematoma i njegova infekcija. Iz dostupne medicinske dokumentacije jasno je da se u obradi pacijenta nažalost postupalo neodgovarajuće. Najprije se smatralo da je riječ o nekom obliku alergijske reakcije, zatim je preporučena masaža heparinskom kremom te na kraju nije ordinirana ni antibiotska terapija prvih pet dana. U toj fazi već je bilo jasno da je počela infekcija. Na sreću ipak je zakašnjelom, ali ispravnom terapijom, uspješno riješen pacijentov problem.

purulent fluid. After that, the swelling started to regress slowly and the hematoma diminished (Figure 2). Eight days after the incident, clinical examination at our department revealed a discrete swelling and a visible outline of the regressing hematoma which was expanding from the infraorbital to the jugular region (Figure 3). A complete resolution of hematoma was observed (Figure 4) two weeks after the incidence and no further therapy was needed.

Discussion

The use of modern anesthetics appears to be safe, although a maximum care must be taken when applying an appropriate anesthetics. In addition to that an adequate technique should be used. This implies also the administration of a minimal but effective dose for a certain dental treatment. When a local anesthetic is applied, either infiltration or block, it is of utmost importance to perform aspiration (1). In this way, systemic activity can be avoided. Simultaneously, local activity is being increased. It is a well-known fact that the posterior superior alveolar nerve block and the inferior alveolar nerve block are accompanied with a higher incidence of positive aspiration (4). Moreover, with positive aspiration we can highly expect that a local anesthetic will be administered intravascularly. However, negative aspiration dose does not necessarily mean that the local anesthetic was not injected into the blood vessel. Hematoma formation as a complication of local anesthesia is a result of venous or arterial laceration. In cases of traumatic artery rupture, a hematoma appears instantly and this is an embarrassing situation both for the patient and for the dentist. An elevated intraarterial pressure causes effusion of blood into the surrounding soft tissues. The size of hematoma depends on the density and compactness of affected tissue, while spreading of the hematoma ends at the moment in which the pressures of the tissue and the pressure in the vessel equalize. When a vein rupture is concerned, hematoma does not necessarily occur. In the presented case it can be said with great certainty that arterial laceration was the issue. From the anatomical point of view, one might speculate that either a branch of upper labial or a distal branch of the infraorbital or a proximal part of angular vein artery was ruptured. In similar cases, we should not completely eliminate a hemangioma as an underlying etiology. The latter was excluded both by clinical examination and panoramic imaging analysis after the hematoma subsided. Therefore, we concluded that there was no need for additional radiological examination such as computed tomography and angiography. Moreover, hemophilia as an underlying cause has also been excluded and the patient was not sent for further laboratory testing. In the end, the most important part is to recognize the symptoms and signs and to start the treatment without delay. The treatment includes compression of the affected site with ice packs and the antibiotic therapy (5). By doing so, a further advancement of the hematoma and its infection are prevented. From the available medical documentation it can be seen that the patient did not receive adequate treatment. In the early stage it was thought that some local allergic reaction occurred. Later on,

Zaključak

Komplikacije pri uporabi lokalnog anestetika ne mogu se potpuno spriječiti. Pravilnim odabirom lokalnog anestetika i ispravnom tehnikom davanja one se mogu svesti na najmanju moguću mjeru. Brzo prepoznavanje kliničke slike hematoma i adekvatno liječenje hladnim oblozima i antibiotikom nužno je za njegovo ograničavanje i daljnje pogoršanje, tj. za sprječavanje infekcije.

massage therapy using a heparin cream was recommended without prescription of antibiotic in the first 5 days. At that stage it was clear that infection had already taken place. Fortunately, appropriate but delayed treatment was ultimately undertaken and the situation was resolved.

Conclusion

Complications with the use of local anesthetics cannot be absolutely prevented. However, making the right choice for local anesthesia and correct technique applied can minimize their incidence. It is crucial to promptly recognize clinical signs of hematoma and to adequately treat the patient. Ice packs and antibiotic therapy are necessary for the prevention of hematoma propagation and its infection.

Abstract

Hematoma is among less frequent complications which occur following local anesthesia. The posterior superior alveolar nerve block and inferior alveolar nerve block are known to be accompanied with a higher incidence of positive aspiration compared to all infiltration and block anesthesia techniques in oral surgery. We present the case of an otherwise healthy 8-year-old boy who experienced a large cheek hematoma after a routine infiltration anesthesia in the maxilla. Firstly, he was mistakenly treated under the diagnosis of type 1 allergic reaction. Subsequently, the topical therapy for an evident, large hematoma was unsuccessful. Ultimately, incision of the infected hematoma and antibiotic therapy were crucial for its resolution. Early recognition of clinical signs of hematoma is of utmost importance for the surgeon in order to treat the patient adequately.

Received: April 18, 2018

Accepted: June 3, 2018

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Key words

Maxilla; Local Anesthesia; Dental Anesthesia; Hematoma; Cheek

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