Dental office emergency drugs

Part 2: Understand critical office resuscitative emergency (CORE) drugs before you need them

By John Roberson, DMD

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Dental practice staffs must be prepared to address medical emergencies that can, do and will happen during the course of practice. Photo Provided by NHSTA Image Collection

Ammonia inhalants

Definition: Bronchodilator — stimulates beta-2 adrenergic receptors causing bronchodilation.

Use: Syncope/fainting/loss of consciousness.

Suggested stock: One or two packets of ammonia inhaler.

Aspirin

Definition: Anti-platelet — inhibits prostaglandin synthesis and inhibits platelet aggregation irreversibly.

Use: Suspected myocardial infarction.

Suggested stock: One box of ammonia vials.

Diphenhydramine

Definition: Antihistamine — antagonizes histamine at the H1 receptor, causes sedation and has an anti-cholinergic effect.

Use: Allergic reaction/anaphylaxis.

Dosage: 50 mg IM or IV.

Midazolam or diazepam: a benzodiazepine that acts on the inhibitory neurotransmitter gamma amino butyric acid (GABA) by promoting hepatic glycogenolysis and gluconeogenesis.

Injectable anti-cholinergic

Atropine — anti-cholinergic: antagonizes acetylcholine at the muscarinic receptors, increasing the heart rate as well as having an anti-sialogogue effect.

Injectable corticosteroid

Hydrocortisone (Solu-Cortef) — anti-inflammatory: a corticosteroid secreted by the adrenal cortex which has anti-inflammatory, anti-allergic, mineralocorticoid activity and stimulates gluconeogenesis.

Dexamethasone — anti-inflammatory: a corticosteroid secreted by the adrenal cortex; it has anti-inflammatory, anti-allergic, glucocorticoid activity and stimulates gluconeogenesis.

Injectable anti-hypertensive

Esmolol — beta-antagonist: is a cardiodepressive beta receptor blocker with rapid onset and a very short duration of action, with no significant intrinsic sympathomimetic or membrane stabilizing activity at therapeutic dosages. It decreases the force and rate of heart contractility.

Additional emergency drugs for consideration

These additional emergency drugs are suggested for practices that do any type of advanced anesthesia, such as PO sedation, IV sedation, or general anesthesia. Practitioners may have their own choices of emergency drugs due to their type of practice as well as training background.

Reversal agent — benzodiazepine

Flumazenil (Romazicon) — benzodiazepine antagonist: reverses effect of benzodiazepines by competitively inhibiting the GABA receptors.

Injectable anti-convulsant

Midazolam or diazepam: a benzodiazepine that acts on the inhibitory neurotransmitter gamma amino butyric acid (GABA), limbic system, hypothalamus and thalamus to produce sedation, anti-anxiety effect and skeletal muscle relaxation.

Injectable anti-hypoglycemics

Dextrose (50 percent dextrose) — anti-hypoglycemic: a source of calories and fluid for patients that are not able to take oral fluids in the event of a hypoglycemic reaction. Glucagon (GlucoGen) — anti-hypoglycemic: causes a rise in blood glucose levels by promoting hepatic glycogenolysis and gluconeogenesis.
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September starts the countdown to the largest dental congress and health care meeting in the United States. Photo/Provided by GNYDM

Conclusion

In conclusion, the emergency drug kit is essential for the practice of dentistry. No practitioner is able to determine when he or she will be faced with a medical emergency that will require the use of emergency drugs. It is for that reason alone, dental healthcare practitioners should stay up-to-date on medical emergencies as well as the drugs used to treat them. Develop a regular protocol to where you and your staff are able to rehearse various emergencies using your emergency drugs. Know their actions along with the route of administration. You and your staff should always know the location of your emergency drugs. Assign a staff member the role of reviewing your emergency drugs each month to prevent expiration of these drugs. Check out the emergency drug tracker from Emergency Drug Resource (www.buildyourowndrugkit.com) as another way to assist you in developing an expiration prevention program. None of us know when our patient’s life may depend on our readiness — and having the proper emergency drugs.

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References

2. Journal of the American Dental Association, May 2010, Supplement on Medical Emergencies
3. Package Insert on Local Anesthesia, “WARNING” Section
4. Wikipedia: Central Nervous System
5. American Heart Association
6. Advanced Cardiac Life Support (ACLS)
7. Pediatric Advanced Life Support (PALS)
8. CRASH CART, SAJITH KUMAR. RN, KM, MS in Emergency Medicine; www.emergencymedicinemims.com
9. www.acs-algorithms.com

Injectable anti-arrhythmic

Adenosine (Adenocard) — anti-arrhythmic: used for treatment of paroxysmal supraventricular tachycardia by slowing conduction time through the AV node as well as interrupting the re-entry pathways through the AV node.

Amiodarone (Cordarone) — anti-arrhythmic: a class III agent that inhibits adrenergic stimulation, which prolongs pathways through the AV node. Adenosine (Adenocard) — anti-arrhythmic: used for treatment of paroxysmal supraventricular tachycardia, atrial flutter and atrial fibrillation.

Vasopressin (Pitressin) – an anti-diuretic hormone used for treatment in arteries and arterioles.

Injectable anti-arrhythmic

Verapamil (Isoptin/Calan) – an anti-arrhythmic: used for the treatment of paroxysmal supraventricular tachycardia, atrial flutter and atrial fibrillation.

Labetalol — beta-antagonist: is a mixed alpha/beta adrenergic antagonist, which is used to treat high blood pressure.

Hydralazine: is a direct-acting smooth muscle relaxant used to treat hypertension by acting as a vasodilator primarily in arteries and arterioles.

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9. www.acs-algorithms.com