Dazed but not Confused

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Chief Complaint

Oropharyngeal bleeding

History of Present Illness

44 year old female with past medical history of hypertension and hyperlipidemia presented to ED with complaint of spontaneous oropharyngeal bleeding. Pt denies any recent trauma or dental procedures. No personal history or family history coagulopathies. She is on a baby aspirin daily, no prescribed anticoagulant medications. She has normal menstrual cycles that are not reported to be heavy.

Physcial Exam

VITALS: T-98.1, HR-79, BP-121/58, RR-20, SpO2-98%

GEN: alert and oriented, well-appearing, no apparent distress

HEENT: Lips with dry blood periorally, intraorally reveals mild amount of bright red blood extending to the posterior oropharynx, with no active bleeding source identified, normal appearing dentition, uvula midline and normal appearing, nares appear intact without blood, no evidence of septal hematoma

CV: normal S1S2 without murmur, rub, or gallop

RESP: lungs clear to auscultation bilaterally without wheezes, rales, or rhonchi

GI: abdomen soft, non-tender, non-distended, normative bowel sounds

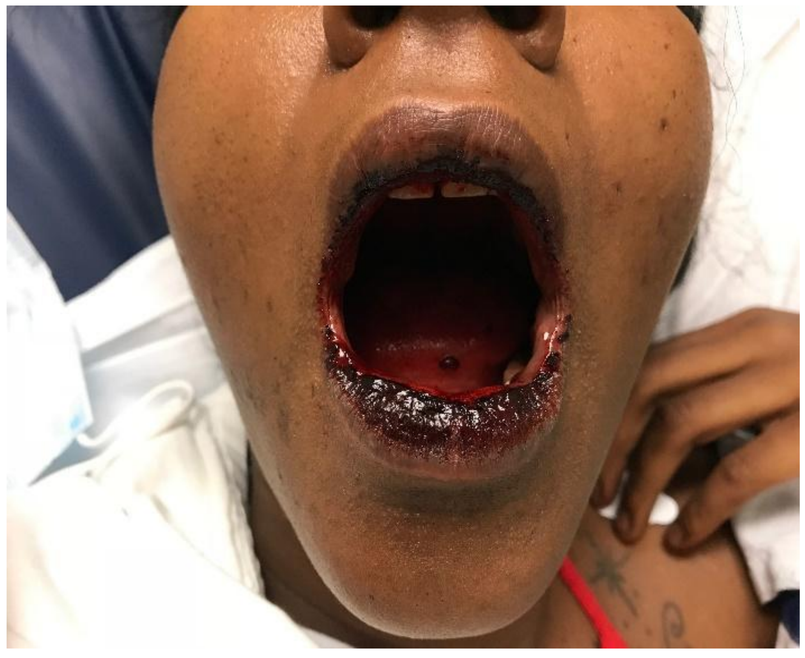
SKIN: warm and dry without rash, no petechiae

Questions

1. What additional questions need to be asked to help get to a diagnosis?
2. What laboratory abnormalities do you expect?
3. How is this managed?

Answers

1. ED physicians caring for patients with unusual, unexplained bleeding and coagulopathy should inquire more about the social history, specifically synthetic cannabinoid use.
2. Significantly elevated international normalized ratio (INR) commonly over 10.
3. Toxicology consultation, Vitamin K oral or IV, transfusions of fresh frozen plasma or four-factor prothrombin complex concentrate, monitor INR.



Pearls

1. Synthetic cannabinoids are used commonly in the community, particularly among individuals whom are trying to avoid detection from periodical drug screening, as synthetic cannabinoids are not commonly screened for in basic drug panels.
2. Patients with an unexplained bleeding diathesis need to have a detailed social history including synthetic cannabinoid use or possible exposure to rodenticides.

Discussion

The labs revealed a normal platelet count, a normal hemoglobin, an international normalized ratio (INR) of 11.3 and the patient retrospectively admitted to smoking synthetic cannabinoids. Toxicology was consulted and the patient was initially managed with IV vitamin K and transfusions of fresh frozen plasma (FFP) to manage the elevated INR. Her oral bleeding had slightly worsened while in the Emergency Department and she was admitted to the Intensive Care Unit initially for close monitoring. The patient was monitored in intensive care for one night where she received two more transfusions of FFP. She was transferred to the floor the next day and was shortly discharged thereafter with a normal INR and no significant morbidity.

Between March and June of 2018 an outbreak of synthetic cannabinoid associated coagulopathy occurred in a reported 164 patients in an isolated region of the United States. Confirmatory anticoagulant poisoning panel testing revealed superwarfarin poisoning as the underlying cause of the coagulopathy. Specific vitamin K antagonists including brodifacoum, bromadiolone, and difenacoum were noted to be present in almost all samples tested, with brodifacoum being the most common. Upon presentation, the leading symptom was gross hematuria found in more than half of reported patients; other common hemorrhagic complications included mucosal bleeding, epistaxis, and gastrointestinal bleeding. The mean INR at presentation was 15.8 and symptoms were reported usually within 1-3 days of synthetic cannabinoid use. There was a total of four reported deaths, all of which were associated with intracranial bleeding that was either spontaneous or related to minor head trauma.

Synthetic cannabinoids are typically smoked but can also be consumed in concentrated liquid forms.They are marketed as “herbal incense” or sold under common names such as K2, Spice or synthetic marijuana. The synthetic cannabinoids structurally mimic tetrahydrocannabinol (THC). THC in its natural form has strongest binding affinity to the central CB1 receptor, which is linked to the psychoactive effects of marijuana. When laced with brodifacoum, as in our case, the coagulopathy exhibited is vitamin K dependent and is consistent with a long acting, highly potent coumarin traditionally found in rat poison. These superwarfarins are thought to be added to synthetic marijuana to prolong its psychoactive effects, however this is not substantiated in the literature. It is also possible that the combination is from accidental exposure (contamination from rodenticides to protect crops) or from malicious intent from individuals dealing the synthetic marijuana. It is thought to be a possible agent for bioterrorism as well.

Most bleeding complications related to synthetic cannabinoid use can be managed with vitamin K replacement therapy either oral or intravenously alone. FFP is used for more significant bleeding and to correct a markedly elevated INR. Four-factor prothrombin complex concentrate has been used with success as well. The poison center was involved in every case reported. Packed red blood cell transfusion is used in patients who have significant blood loss manifesting as hemodynamic instability or anemia mostly commonly from gastrointestinal bleeding. The recommendation is for patients to be discharged on oral Vitamin K for a few weeks due to the prolonged half life with frequent follow up.

References

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