Transcript Details

This is a transcript of a continuing medical education (CME) activity. Additional media formats for the activity and full activity details (including sponsor and supporter, disclosures, and instructions for claiming credit) are available by visiting:
https://reachmd.com/programs/cme/trauma-in-the-anticoagulated-patient-decreasing-morbidity-and-mortality-in-severe-injuries/16239/

Released: 10/09/2023
Valid until: 10/09/2024
Time needed to complete: 1h 00m

ReachMD
www.reachmd.com
info@reachmd.com
(866) 423-7849

Trauma in the Anticoagulated Patient: Decreasing Morbidity and Mortality in Severe Injuries

Announcer:
Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

Prior to beginning the activity, please be sure to review the faculty and commercial support disclosure statements as well as the learning objectives.

Dr. Gibler:
The next speaker is also an Emergency Physician that is dually trained in orthopedic and trauma surgery. And Dr. Linder is from Dr. Mark Mockel's shop at Charite Hospital in Berlin. So thank you, Tobias.

Dr. Lindner:
Well, decreasing morbidity and mortality in patients with severe injuries actually starts in the prehospital setting. We should follow a standardized approach, because this is the only way that empowers us to find injuries with relevant bleeding. And only by knowing the relevant bleedings or injuries, we can actually fulfill the second task, that means stop or at least reduce the bleeding.

As you see, there are pictures of some toys we've got on our shelves or in our bags, but we actually should know how to use them properly. And another very important task in the prehospital treatment of people with severe injuries and accompanied bleeding is that we should absolutely avoid dilution. We should administer only a small amount of fluids. And these have to be pre-warmed to avoid further falling in body temperature.

Well, after initial resuscitation, we should actually assess the trauma load of the patient. And this is very special, and in comparison to all the other entities we've heard of, trauma itself can cause a bleeding disorder, so-called TIC, trauma-induced coagulopathy. And on top of this, at this stage, we should remember the acronym, SAMPLER, because, and you can imagine this on the prehospital trauma scene, it's very hard to actually find out whether your patient is on a special medication. But only by doing and by asking whether there is something like an anticoagulant, you might find out. And if you're very happy, you will even know how much and when last it was taken. But as you can imagine, this is a very hard task.

However, if you've got a severe trauma load, and you expect bleeding, then you also expect hyperfibrinolysis in the early stage of TIC, and so there's a clear recommendation to administer tranexamic acid, even on the way to hospital.

Well, the main message of this slide is bring the patient quick and warm to the next adequate hospital. It should be a trauma center. However, and unfortunately, still, every false patient arriving there is somewhere in the Triangle of Death and is hypothermic, is acidotic, or has got a TIC, or a combination of that. And these are the patients arriving in hospital, you know, we're not talking about the ones dying on the street.

What's going to happen in the shock trauma room? I mean, if you've got a patient who is in extremis, you've got to do surgery on him on the table in the shock trauma room, and start your first line of care with this bleeding bundle consisting of fresh frozen plasma, red blood cells, and you have to consider a second dose of TXA, or if not given in the prehospital setting, the first dose of TXA and the first actually replaced clotting factors fibrinogen.

However, if you've got a stable or a borderline patient, you will try everything to get them through a whole CT scanner to actually use the gold standard of finding bleeding and taking it from there. You have to decide whether he's got to go to operation theater for damage control surgery, or if it makes sense for interventional radiographer to actually stop the bleeding, or if the patient can be brought to ICU directly.

Well, especially in borderline patients, they could actually profit from another small detail with very easy to take. Every patient, the first laboratory result gotten in a shock trauma room is blood gas analyzers. And base deficits and lactate have been shown to be good predictors of ongoing bleeding and the situation the patient is in. And this might push you forward to start your first-line therapy in the borderline patient.

Well, we also sent blood to standard laboratory testing, but over the last years, there is a stronger recommendation that, especially in the severely injured patients, you should use viscoelastic testing methods. I mean standard laboratory testing turnaround time is around 40 minutes. You only get results from the early phase of clotting. And if you're looking for anticoagulants, you have to ask for specified tests. By using VEM methods, the turnaround time is around 10 minutes, and it is covering not only clotting time, but also clot formation and also fibrinolysis. So, today also there are special subtests to actually detect the anticoagulants.

If you are happy to find a vitamin K-dependent oral anticoagulants, the recommended therapy is replacement actually, so giving PCC and also vitamin K. There is good evidence because of the RE-VERSE AD study that if there is life-threatening bleeding, and also replacement didn't get the clotting into the right direction, then you should use idarucizumab to stop the bleeding. However, with a focus on factor Xa inhibitors, there's less evidence and so this is only a suggestion to reverse it with andexanet alfa. So, and if andexanet alfa is not available, you should use PCC.

However, there is a new trial planned, it's called the ANNEXA-RS requiring urgent surgery. But unfortunately, reading the exclusion criteria, I found that the patient I am talking about is excluded from this trial. Because a patient who has acute life-threatening bleeding at the time of screening will not be involved in the study.

Taken together, because of the 2 identities of trauma-induced bleeding and maybe anticoagulation, the first therapy is TXA and then replacement for TIC. You should use the goal-directed therapy as fast as possible, also concerning replacement. But if you've got reliable information or you can actually see an effect of an anticoagulant, and there's ongoing life-threatening bleeding, you should go ahead and use the antagonists if they are available in your hospital.

Announcer:
You have been listening to CME on ReachMD. This activity is jointly provided by Global Learning Collaborative (GLC), EMCREG-International, and TotalCME, LLC. and is part of our MinuteCE curriculum.

To receive your free CME credit, or to download this activity, go to ReachMD.com/CME. Thank you for listening.