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Case Presentation: Management of a Patient with Anticoagulation and Severe Traumatic Injuries

Announcer:

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Dr. Lindner:

I want to start with a case. This was actually published in July in a German trauma paper. It was from Cologne from Marc Maegele and his group, very experienced in clotting. So they reported on the case 54 years old, road traffic accident, he has been entrapped for a while. Actually on the scene, there was no catastrophic C problem. And under the next C, they found suspicion of pelvic injury; for sure they found an unstable left femur. And with the prehospital ultrasound, they could also detect free intraabdominal fluid. If you look at the D, you see, there's the GCS from 14. And so, he was one of the lucky ones who could actually say that he is on apixaban and his last intake was this morning. So this is good information for the emergency physician. And he put him on fluids and put a pelvic band around him, immobilize them, and looked that he is arriving to the hospital in the fastest way possible, by helicopter.

So in the shock trauma room, the reassessment shows that the heart frequency is slightly going up, but blood gases were not very exciting. But however, in the ultrasound, there was an increasing amount of free abdominal fluid, and however, the patient was stable enough to go through the CT scanner. And there were multiple active bleedings in the abdomen, there was a segmental fracture of the femur and of the right lower limb, he had lung contusions, and there were also a dissection of the arterial iliaca.

As the emergency physician didn't give him TXA in the prehospital setting, he was getting this here. And during the further investigation, a C problem arises. And so the patient was put on, in the operation theater, for emergency laparotomy. Because INR came back with 2.75, replacement therapy took place with PPSB or PCC, and fresh frozen plasma.

And even on top of the history, which is quite reliable, they used one of the viscoelastic testing methods, the ClotPro, which got a special subtest for anti-factor Xa inhibitors. And so this came back prolonged. So there was an interdisciplinary agreement because of the injury pattern, the ongoing life-threatening bleed, and even on top of the medical history, proven ongoing apixaban effect, but they actually reversed him with andexanet in the low-dose schema, as mentioned or as advised.

In the ongoing they rechecked the viscoelastic method, and they found that the clotting time after reversal came back to normal almost. And the patient came back from the operation theater. His HP dropped to 9.7, but he never needed any red blood cells. And on next day, the HP still was 8.3 as far as I can remember. So again, no red blood cells. And so, as we can see here, the reversal of the effect at least saved a lot of transfusion. Thank you very much.

Dr. Gibler:

Thank you, Tobias. Questions for Dr. Linder?

Dr. Jarhult:

Yeah. So considering the diversity of our trauma patients these days, even frail, elderly, and should we bring a clotting expert into the trauma team?

Dr. Lindner:

In the trauma team. Well, the trauma team is very - I mean, there's - we need space in the trauma room. But in our hospital, we've got a clotting service which is 24/7 available via phone. And especially in using these viscoelastic methods, they can actually see the results on every computer screen in the hospital. But however, I mean, we were talking about who should make the decision on repletion or reversal or not, and we were all arguing that this should be in the hands of emergency physicians. And so, I actually do expect someone who wants to decide about reversal should also know how to actually come to this conclusion. And so, I expect the emergency physicians to gain a lot of experience in daily practice with these viscoelastic methods, and I hope we are becoming the expert for this.

Dr. Body:

So you talked a little bit about the prehospital care that was given to these trauma patients. And you know, we take the case of tranexamic acid, for example, we know that it's time critical to get that medication. And so nowadays, certainly in the UK, the tranexamic acid would be given prehospital. Can you envisage this in future moving to reversal of anticoagulation in the prehospital environment? And if so, what do you think we need to do in order to get there?

Dr. Lindner:

Okay, reversal in the trauma patient is, for me, second-line therapy. Necessary, but absolutely not first line at this moment. Because I mean, in case we have safe information, like in the case we've seen in the example from Cologne, this might be one of the rare cases where this would make sense to have something like a reversal in the prehospital setting. But we should not forget that patients are bleeding to death on the street. And they also need something to carry the oxygen. So I think we are on a good way, actually, for replacing and we should have an idea and a perspective of bringing fresh old blood on the street first.

Dr. Body:

Thanks.

Dr. Gibler:

Again, getting back to, we have a number of physicians that are working diligently in smaller hospitals. What do you expect from a standpoint, should reversal be reversal or repletion be in that setting, in addition to the management as you can? You just showed a patient getting a pelvic binder. How would you advise this group to take care of those patients before they're sent to you and their trauma center there at Charite?

Dr. Lindner:

Well, I mean, you can only do what you've got in your hands. So I mean, everything walking down the line, which I try to explain here, is fine. And but with respect to reversal, you should have the opportunity to have it in your hospital. And if you're talking about small hospitals, I expect that the replacement or the repletion is completely done and pushed to whatever is possible, and that at least no time is lost to transfer the patient to a trauma center.

Dr. Gibler:

Dr. Lindner, thank you very much.

Announcer:

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