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Case Presentation: Management of a Patient with Anti-Factor Xa Associated Intracranial Hemorrhage (ICH)

### Announcer:

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

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### Dr. Kreitzer:

So, I briefly want to go through a pretty typical case of the type of patient that we would see in the neurointensive care units. And a patient who's got an anti-factor Xa associated intracerebral hemorrhage.

So this is a patient who is a 58-year-old male who presents to the emergency department with acute onset left-sided weakness. And you can see on his head CT, he's got a right basal ganglia hemorrhage. This is the most common area for a spontaneous intracerebral hemorrhage, which is often caused by having untreated hypertension over a period of several years. This patient has atrial fibrillation, is on rivaroxaban. So some of the next steps that we want to think about in the emergency department certainly are making sure that his airway is patent and he's protecting his airway. But also starting to think about things that we can do to prevent morbidity and mortality in this patient, things like managing blood pressure, anticoagulant reversal. And then if he requires an external ventricular drain, wanting to make sure that we have that anticoagulant reversed adequately prior to placing that in the neurointensive care unit.

Now intracerebral hemorrhage is just a small proportion of all stroke, but has high mortality and high morbidity. So anywhere from 30 to 50% of patients may have mortality within that first 6 months, and then up to 3/4 of them are functionally dependent in some capacity at 12 months. That incidence is probably going to double by the year 2050 with the aging population, as well as more anticoagulation use.

Now on our patient, we utilize a factor Xa inhibitor reversal, andexanet alfa. Prior to this drug being approved in the United States by the FDA in 2018, in vitro testing had demonstrated that PCCs might be used for reversal. After the ANNEXA-4 study was released, we learned that about 2/3 of the patients that were enrolled in that study, or the vast majority, had some type of intracranial hemorrhage. And interestingly, most of those had a GCS that was still very good, a GCS of 14, and then 80% of those patients with some type of intracranial hemorrhage had excellent or good hemostatic efficacy when reversing the ICH.

Now within the next few weeks, we're about to get some exciting information. The ANNEXA-I study is going to be released. We do know that this study was stopped early because of efficacy in the andexanet alfa arm of the study. So briefly, ANNEXA-I is a phase IV, multicenter, international, randomized controlled trial, randomizing participants to receiving andexanet alfa or standard of care, which is most commonly PCCs. And this is for patients with intracranial hemorrhage. Now the study enrolls patients who were last seen well within the past 6 hours, and we're within 15 hours of taking their last DOAC dose or thought to have been within that last 15 hours, because it's hard to always know for sure. And then they had planned to enroll 1,200 participants, but as we have learned, this study was stopped early due to efficacy.

So with our patient, going back, this patient was given andexanet alfa, and external ventricular drain was placed after that bolus, and during that 2-hour infusion. The patient required a nicardipine drip for hypertension management. We admitted him to our ICU, and

the patient was able to be discharged a couple of weeks later, and was able to actually be restarted on a DOAC.

So we now have some discussion from our panel experts

**Dr. Gibler:**

I wanted to briefly introduce our 3 expert emergency physician panelists, actually 6 of the 8 people on the stage today are emergency physicians, but Dr. Rick Body from the University of Manchester, Dr. Susann Jarhult from Uppsala, Sweden, and

Dr. Martin Mockel from Berlin. So would we like to ask a question of Dr. Kreitzer, please?

**Dr. Jarhult:**

Thanks, Natalie, for an excellent speech. My question to you is as time is key, should emergency physicians or neurointensivists make decisions on their own to reverse or replete?

**Dr. Kreitzer:**

I think for the setting of intracranial hemorrhage, the question being should emergency physicians or another specialty such as neurocritical care physicians make the decision about whether to reverse or replete, depending on what agent the patient is taking. Ultimately, that is going to be dependent center to center, institution to institution, what you have available within those first few minutes and very rapidly. But I strongly believe that emergency physicians, we certainly have the ability, capability and, you know, should really be given that opportunity to provide that to patients with the idea, like you said, those first, you know, few minutes to hours really matter substantially, and we are the first people to see those patients.

**Dr. Gibler:**

Go ahead, Martin. No, please.

**Dr. Mockel:**

I have a question, adding on that you highlighted nicely, that there are 2 concepts, reversal or repletion. And people being under ICH are prone to have a worse outcome. So do you think that all patients need to be treated this way? Or are there patients where you have a kind of watch and wait?

**Dr. Kreitzer:**

I'm so in general, with reversal or repletion for patients who are anticoagulated and found to have some kind of intracranial hemorrhage, I think the vast majority of them should be offered the opportunity to have that reversal or repletion. The ones certainly who maybe may not fall into that category might be those patients with just massively, very large hemorrhages who potentially are either non-survivable. Or you know, for example, patients who have a traumatic brain injury and they have hit their head maybe a few days ago, and they're asymptomatic with the thought that they've really gone through those several days and done okay. But in general, just because hemorrhages are small, doesn't mean they shouldn't be reversed. And waiting until a patient decompensates, you've really lost that time.

**Dr. Gibler:**

Yeah, it's very interesting when you look at that. We talked as a panel this morning, we got together and said, 'What do we hope people will come from this meeting with?' Emergency physicians are going to see these patients likely first. And it requires expertise. And emergency physicians have that expertise, and can gain that expertise to allow them to not just take care of the patient, but inform the various specialties that they will deal with; be it stroke, neurology, or gastroenterology, or neurocritical care, or whatever. So that's one of the things that we took as a take-home from it, is the capabilities and expertise of Emergency Medicine lends itself very well to this whole concept of repletion and reverse.

And I it'll be interesting to hear with Dr. Parry-Jones, a stroke neurologist, because we will ask you that question too regarding, should every patient be treated that comes in with some sort of intracranial bleeding? And I think that was an interesting - it's that patient that is solved, you find out that it's 2 days old with a with a bleed due to hemorrhage, then that's that is pretty straightforward.

So Dr. Kreitzer, thank you very much.

**Dr. Kreitzer:**

Thank you.

**Dr. Gibler:**

Appreciate it.

**Announcer:**

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