

Treatment of Traumatic Brain Injury in the Emergency Department

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Video Link: <http://www.brainline.org/content/multimedia.php?id=1184>

Dr. Jeffrey Bazarian: Early identification of Traumatic Brain Injury is crucial because we've found that the sooner we can diagnose and treat this problem, the better the patient's chances for a full recovery. This is really true for moderate and severe Traumatic Brain Injuries. So for the patient who's in a coma, the quicker we can get them to a center that can control their airway, their breathing, their circulation, and get that CAT Scan, the sooner we can take care of their brain, especially if we need a neurosurgeon to evacuate some blood.

Now, in the case of mild Traumatic Brain Injury, I still think that early diagnosis is important because a small percentage of concussion patients or mild TBI patients will be harboring a small clot there. They'll look like you and I sitting here looking fine, but they'll be harboring a small clot that's slowly getting bigger and bigger. Only about 5% or so of all concussion patients will have this, but it's hard to know just by looking at someone whether they're going to be that 5%. So getting them to a place that can do a CAT Scan quickly is important for identifying that potentially life-threatening blood clot.

I think it's also important to get patients to some medical facility so that they can get a CAT Scan. And even if it's normal, have the emergency provider talk to them about what to expect. Because they're going to have a variety of symptoms that they never had before. And we want them to understand that this is probably related to getting hit in the head. And in most cases, patients will feel better in three to six months. We think that this helps people just accept some of these symptoms and not think that they're nuts. We don't want people thinking that they're crazy. We want them to understand that they've had a head injury, they probably will get better, and this is what to expect.

So if we see a concussion patient who comes in, they look fine, but we do a CAT Scan and we find a collection of blood, then we have to make a decision here. Is this the kind of blood that needs an operation or is this the kind of blood that we won't be able to get out with an operation? In a small percentage of cases, we can tell just by looking at the CAT Scan, this is the kind of blood collection that needs an operation. And these are called epidural hematomas and subdural hematomas. So those generally need an operation and we get the neurosurgeons, and they're excellent at helping us sort through those issues. Unfortunately, the vast majority of these abnormal CAT Scans, in concussion patients, are bruises, the collections of blood that aren't amenable to being taken out by a surgeon.

So what we do with those patients is we watch them for 24 hours. Because sometimes that bruise gets a little bit bigger. And then patients start to get sleepy and we need to do airway, breathing, circulation. So 24 hours gives us that window of opportunity to see whether that's going to happen and we also repeat the CAT Scan. So we bring them into the hospital, watch them for 24 hours. If there's no change in their level of alertness, their CAT Scan looks the

same, then we can discharge them safely.

If families of patients who are brought into emergency are not pleased with the advice that they're getting or they're wanting more, there are several resources that they can turn to. I think the first one that comes to my mind is the Brain Injury Association of America. I know they have a website that has a lot of information of what you can expect after a Traumatic Brain Injury. And most states have chapters of BIA that can tell you about local resources. So which positions in your area specialize in taking care of Traumatic Brain Injury? What sources are there if you are looking to get your child into school or some help with work or school? The state chapters of BIA are often helpful in that regard, I believe that you can get to the state chapters from the National BIA website.

As an aside, the American College of Emergency Physicians is working on a standard set of discharge instructions that would be recommended to all emergency care providers. Now, it still doesn't protect against the possibility that some rogue physician would not want to use them, but I think that would really help in standardizing the care that we get, at least from an emergency setting, and maybe minimize the circumstances you discussed or maybe a family didn't really get much advice from the emergency care provider.