Peds Pearls: Smiling, then Dying Epidural Bleeds

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It's inevitable… If you put a bunch of nurses or medics together in any sort of social situation and provide some “adult” beverages, then within three minutes, we will start telling "war stories." Here's one of those “you can’t make this up” true pediatric transport tales.



The Scenario:

Mom brings her 1-year-old child to the pediatrician's office for a well-baby checkup. The child is on the exam table (3 feet/1m high) and Mom has to go pee. So, she tells the 1-year old to “stay put,” she'll be right back. (We couldn't make this up!) Needless to say, Mom makes it eight steps away before the child falls down and goes boom. The baby briefly loses consciousness, but by the time everyone in the office runs into the exam room, the baby is again awake and screaming. The pediatrician decides to send Mom and Baby to the ER to get “checked out,” but thinks that the baby “looks fine." But… the medics call you with report 10 minutes later and now, the child is actively seizing and "looks really sick."

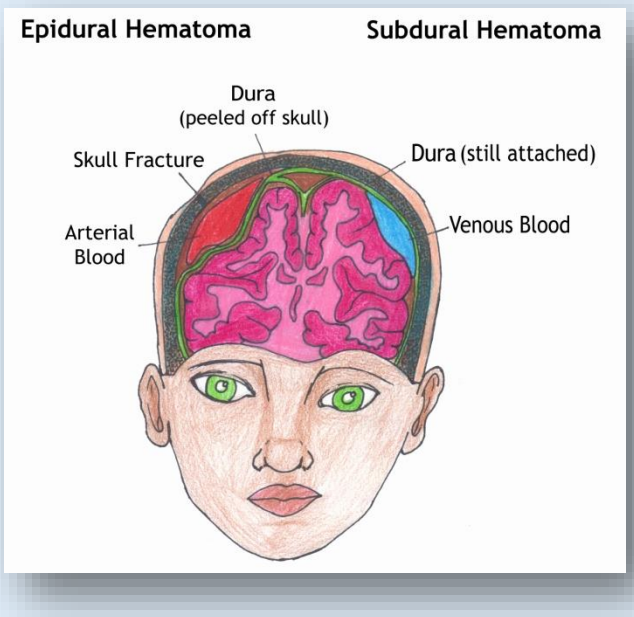
What's going on with this kid?

The fall and subsequent bump on the head has caused a traumatic brain injury, most likely with some sort of swelling within the cranial vault. As you can imagine, swelling + enclosed space (i.e., your skull) = squishing the brain. And a squished brain is NOT a happy brain. Talk about feeling the pressure!

Intracranial hematomas are generally categorized as either epidural or subdural in nature. What’s the difference? Well, to start with, “epi” means above and “sub” means below. That’s easy! Next, what about the “dura” part? The dura is the outermost layer of the membranes/meninges covering the brain and spinal cord. In the head, it is directly below the bones of the skull. A hematoma is simply a pooling of blood outside the blood vessels.

Taking that thought one step further, epidural bleeds tend to be arterial in nature, while subdural bleeds tend to be venous in origin. And, as we know from basic physiology, arterial blood is under greater pressure than venous blood, so a disruption in an artery will “squirt” blood, while a venous injury would “drip.” As such, arterial bleeding into the "closed box" (skull and brain) will result in symptoms quickly, while venous hematomas tend to (but not always) develop more slowly.

For this kid, the bad stuff happened pretty quickly. There was an immediate loss of consciousness from the fall and getting bonked on the head. The baby then “woke up,” having seemingly recovered from landing on its head. Not long afterwards, the baby’s condition changed dramatically, and the uh-oh's started. Why? Increased intracranial pressure caused by arterial blood (remember, it happened pretty quickly) squirting into the space between the skull bones and the brain. A CT scan showed a big "football shaped" hematoma and that’s where the arterial blood culprit will be found.





Pediatric ER & ICU Physician Insights:

Although this is the textbook presentation, many patients do not have this classic lucid period and then crash. It's important to note that not every child reads the textbook!

If, after a bonk on the head, you're smiling, then you're dying, that's an epidural!



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Contact us to have Scott DeBoer or one of our other pediatric experts present at your next conference.

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