Children and infants with skull fractures: Do we need a skeletal survey - Pediatric Grand Rounds-4-25-25-Meeting Recording

April 25, 2025, 12:29PM

49m 5s

Kamat, Deepak M started transcription

Reyes Ruiz, Daniel E 0:04

A little bit of a sound, but the sound is not needed exactly.
It's more the video.
This yours.
This one.

Kamat, Deepak M 0:30

Good morning.
It's 7:30 and it's time to start our pediatric grand rounds.
So welcome everybody.
Just a quick reminder this is.

Reyes Ruiz, Daniel E 0:38

Mm hmm.

Kamat, Deepak M 0:41

A month of April with a child abuse Prevention month, and therefore we have two presentations last week.
Doctor Kissoon gave a wonderful presentation and today Doctor Riyaz Ruiz will be giving his presentation. This presentation has been approved by the Texas Medical Board for.
Or continue medical education in medical ethics, and even last week's presentation was approved.
So those of you who signed up last week will automatic automatically get credit for ethics in medical education. With that, I'm going to hand over to Doctor Kusun, who is going to introduce this morning's round speaker.

Reyes Ruiz, Daniel E 1:23

Thank you so much.
Good morning, everybody and again thank you for giving us the opportunity to talk to you during April, child Abuse Prevention Month.
So today I have the great pleasure of introducing Doctor Daniel Reyes Ruiz.
He is our second year fellow here at in our training program.
He went to medical school at San Juan Bautista School of Medicine in Puerto Rico and completed his residency at the University Pediatric Hospital.
And then moving here to San Antonio, he is interested in prevention of child maltreatment and in physical abuse, including burns, bruises and abusive head trauma. He has done a really great job during his fellowship in getting involved in educating the community and implementing child abuse prevention strategies today.
His talk is gonna be within the scope of his fellowship project.
So good morning to everyone.
Thank you for for being here this morning.
So, doctor, Doctor Kissoon mentioned my name is Daniel Reyes Ruiz.
I'm one of the child abuse fellows.
So this is my my fellow project as Co investigators. I have my mentor is Doctor Nancy Kellogg and I also.
Got some collaboration, one from one of the UTP pediatric, the graduating pediatric.
President, Doctor Kaitlyn Correa and also we got some help from one of our statisticians, Dr. Walter Cook.
So today I'll be talking about a topic that comes up frequently in our clinical practice.
Specifically, what should we do when infants and children pretend with skull fractures?
Do we need to be concerned about abuse and how should and and should we get a skeletal survey to assess this infant?
So I have no financial or other disclosures to make.
So the objectives today are to enhance understanding of how skull fractures occur in infants and young children.
It's also to determine.
Factors that predict whether infants and children with skull fractures get skeletal surveys, and also we're going to describe clinical features in children presenting with skull fractures that are associated with concerns for abuse.

So as a short background, so skull fractures occur in up to 20% of children less than two years old who present with blunt impact trauma to the head.
One up to one of in three skull fractures are caused by abuse and currently the recommendations for evaluating children two years and younger for suspected physical abuse include Substaining, a skeletal survey.
So the importance of obtaining a skeletal survey is that it can help us identify.
Additional injuries that may support the diagnosis of abuse, even in the absence of external signs or external physical findings.
So based on the recommendations from the American Academy, American College of Radiology, the Society of For Pediatric Radiology, a skeletal survey consists of at least 21 radiographs and sometimes more. When we need overly views.
Of the bones of the extremities, when we are, when it's needed to see some more subtle fractures.
So the clinicians decision about skeletal survey?
So in general, clinicians are highly variable in their decisions whether or not to get a skeletal survey.
Some, sometimes infants present with skull swelling and no explanation, and in this cases it's just especially important to determine whether the infant is mobile.
And capable of, for example, falling of an elevated surface like a bed or a couch.
And also clinicians may consider the characteristics of the skull fracture, like if the fracture is complex and if there are multiple skull fractures.
Finally, physician experience and training.
For example, the expertise or the training between pediatric emergency medicine or pediatric trauma or surgery, they all may have different approach in deciding whether to get a skeletal survey or not.
So.
Why are skull fractures important so.
The AAP defines abuse trauma as an injury to the skull or intracranial contents of the of an infant or a young child's head, and it's due to inflicted impact, inflicted blunt trauma or impact or it can also be violent shaking. So skull fractures may be a sign.
Of abuse.
Which would require skeletal survey and in some instances also a head CT. So.
Those are some of the questions then.
That some clinicians might encounter.
So here are some clinical questions about skull fractures.

First, skull fractures are relatively common in infants due to the number of due to a number of of factors. The factors like growth and development and we will need that information in order to interpret mechanisms of a fall.
So then there are questions about the amount of force needed to cause a skull fracture and whether.
A caregiver should know when an injury.
False and get a skull fractures based on the infant's cry or any any symptoms of pain.
So also skull fractures are sometimes associated with extraaxial hemorrhage.
So do we need to worry about when there's a skull fracture and an extra axial and an underlying extra axial hemorrhage? And also if there are certain features of the skull fracture that should prompt or should increase the concern?
To do an abuse work up and finally, how likely is that a clinician will MIS abuse if he doesn't do the work of a few or she doesn't do the workup for abuse, which includes a skeletal survey.
So what causes skull fractures?
So it's not surprising that skull fracture are among the most common fractures in children less than two years old, and more specifically in specifically in infants younger younger than 12 months.
So the typical history that we usually get.
With these cases, is that the infant? The caregivers noted that the infant had a skull swelling and that they.
Rolled or crawled or scoot of of a bed. So due to their development and their weight distribution, the most common injury will be a skull fracture because the head.
Impacts the ground first and because also their parachute reflex, it's not fully developed by that time.
So infants are more prone to fractures because their skull are very thin and very pliable and less protected because of the open fontanel.
So this slide shows how the infant's call increases in thickness by by sixfold.
Over the first three years of life.
So other clinical questions about skull fractures are whether they can occur with very short falls and whether an infant could get a skull fracture without the caregiver hearing or seeing it, even though they are in close proximity.
So the video that this video that I'm going to show you now appears to confirm this possibilities.
This video is an actual footage from from daycare and.

The history from this.
Child is that the parent noted a swelling to the infant's head.
They took him to the to his PCP and he was diagnosed with a skull fracture.
So the the parent brought it to the daycare and and the daycare review the footage.
The video footage from the day before.
And then they they saw what happened.
So when the child was sitting.
In the play mat now in the daycare and the and you and you can see that the caregiver is in the room just a few feet away.
So let me show you now here the videos.
Watch the little girl with that's sitting on the play mat.
This girl specifically here.
And she lips up back.
OK.
So note that the child fell backwards.
She did not cry out and after that she resumed her activity after falling into the edge of the wooden shelf.
So this was a focal impact that hit that back part of her head, and that causes skull fracture.
The caregiver was in close proximity and they didn't notice what happened.
So what about the risks of intracranial hemorrhage in children and infants with skull fractures?
So, given the potential that that infants have thinner skulls, there is also greater potential to injure underlying blood vessels.
So one of the of the reasons skull fractures can be concerning.
To is that the potential for extraaxial hemorrhage?
So the the dura underlying the skull is highly vascular, as you can see.
Here on this fluorescent stain and so there is potential to injury to injure those small blood vessels and cause a a focal small subdural hemorrhage. As you can see here on this head CT, there's a very, very small subdural underlying this fracture.
So.
This extraaxial hemorrhage tend to be very small and tend to result without treatment, whereas if they're small, whereas if there's large.
Makes your actual hemorrhage. Then they may not resolve on their own.
So in asymptomatic children presenting with a primary injury for skull fracture, this

extraaxial hemorrhage do occur, but tend to not progress and not require treatment.
So, are there certain skull fractures?
Are there certain features of skull fractures and infant that can be that are more concerning for abusive trauma, so complex and multiple fractures have been associated with abuse in some previous studies?
Many studies have documented that there's a higher rate of abuse.
Diagnosis in infants, particularly in those under six months of age.
And then also a a more recent study indicated that complex fractures are uncommon and can result from both accidental trauma and abuse.
So.
This last research paper also.
Found that all of this information should be interpreted also in the context of history, so obtaining a good physical, a good history and also doing a.
A very thorough physical exam.
Here we can see type of fractures. So we have simple linear fracture.
Here a depressed skull fracture.
Also, we have here what's called.
Multiple skull fracture.
We can see two skull fractures here and then we also here can see complex or branching type skull fractures.
So how likely is that I'll I'll miss abuse if I don't get the skeletal survey?
So this is the the last question, but this is the last one of the last questions that a clinician is how likely am I to to miss it if I don't send a skeletal survey?
So there's a recent study by by Dominguez from 2022 that look at this question partially.
And specifically in children younger than 12 months, and they found a low rate of abuse, but some of their infants.
Diagnosed with abuse.
Had symptoms and difference from from our paper. Many of these children had normal skeletal surveys and very few presented for another assessment or concern for abuse before their third birthday.
But a key question remains that remains unanswered is how often do we need to get a skeletal survey in children and infants under two years old who are asymptomatic so they don't have any symptoms? Any vomiting?
Any neurologic symptoms and who have a skull fractures, and if there are any

features in the clinical presentation that can assist us in making this decision.
So our first aim is to whether or not is whether or not to the is whether or not the skeletal survey is likely to reveal other fractures.
And the second aim will be how often the skeletal survey impacts the decision or the diagnosis of of abuse.
So our inclusion and exclusion criteria so in our study, we focused specifically on children under two years old that were asymptomatic and were assessed by by child abuse, pediatrician, excluding all children with any symptoms or previous head injury or any surgery.
So why are child abuse pediatricians consulted for infants with skull fractures?
So at Christus Children's and University Hospital from the two hospital that we obtain the data, this is the clinical pathway that guides clinicians to 1st identify a child at risk.
So there's a long list of criteria for that. They should call the child abuse team.
But then there's this two items here that specifically refer to infants and children that may present with skull fractures.
So any fracture in a child with an inconsistent or unexplained mechanism or any unexplained skull fracture or intracranial injury in a child less than five years of age.
So clinicians may then may then assess the child further to determine if there's a concern for abuse.
Or they may consult the child abuse team for further to determine whether there is a concern or whether workup is needed. So sometimes what happens is that clinicians proceed with the abuse, work up before calling us.
Others call before and ask for recommendations before ordering the studies, and the lab tests.
So let's start with the method.
So we did a chart review of over 300 patients and determine who did or who did not get a skeletal survey and abstracted several variables from from from this patient.
So we got age, gender, race and ethnicity. The development of the child also.
Type and number of skull fractures. If there was a history of impact or not.
The results of the skeletal survey and the assessment by the child abuse team.
So part one who gets a skeletal survey.
So our first goal was to compare children with a primary injury, a skull fracture, who did not get the skeletal survey for to those who did get a skeletal survey.
So specifically, we wanted to determine whether all of these factors so history, age,

type and number, skull fractures, is that predicted a clinician's decision to obtain a skeletal survey.
So.
Most of our patients.
Were males.
Hispanic. Younger than six months and most of them had.
Single simple linear linear, non depressed skull fractures.
And overall, our rate of abuse after all of the assessment was low, about 9% of all the children that were.
Assessed were.
Diagnosed as concerning for abuse and 15% of them.
Were diagnosed with concern for neglectful supervision.
So.
So what factors did not impact the likelihood of getting a skeletal survey? So each race, gender, and ethnicity fracture characteristics specifically, if they were single or multiple?
Simple VS complex or depressed or non depressed that that did not affect the decision to obtain a skeletal survey.
Also, the presence of annexed axial hemorrhage did not impact the likelihood of getting a skeletal survey.
So this might be surprising, but most of the extraaxial hemorrhage in this cases were small and usually directly under the fracture site. And all of these children's were asymptomatic.
But many of them with this extraaxial hemorrhage were hospitalized overnight for observation and presumably to ensure that this or super acne hemorrhage did not expand.
And they and it wouldn't cause.
Anymore severe symptoms if they have. If if symptoms started to started to show.
So we're gonna talk about a couple of thesis during the presentation.
This is the first one, so this is at six months old who was with mother.
They were in the grocery store and the six months old was sitting strapped on a chopping cart and then a four year old brother was also inside the cart.
So mother turned to one side to reach for baby wipes on one of the shelves, and the four year old that was inside the car also leaned over.
To the nearby shelf.

To reach for a toy. So because of his weight that caused the cart to tip over.
So the six months old fell and and hit the floor hit the right side of his of his of his head, impacting the right side of his head, and his and his whole body.
So there was no loss of consciousness or vomiting after the incident, but.
Mom noted that there was like a soft.
Body spot on the head of the baby and brought brought the baby in so.
A head CT showed that the baby had a non displaced parietal fracture.
That we can see here and underlying the.
The fracture we can see a very, very small extraaxial hemorrhage.
So the reason why I'm showing this case is because we have a six month old with a skull fracture and an extraaxial hemorrhage.
But a skeletal survey was did not recommend a skeletal survey because the fracture and the small extraaxial hemorrhage underlying the fracture can be explained by the fall from the chopping cart.
So what factors did impact the likelihood of getting a skeletal survey? So children with skull fractures evaluated at CHRISTUS children's were more likely to have skeletal surveys than children evaluated at University Hospital?
Also, patients with a without a history of impact were more likely to get a skeletal survey when compared to patients with a history of impact.
So all patients that clinicians that clinicians had a concern.
For abuse, had a skeletal survey and the concern for abuse impacted the decision of obtaining a skeletal surveys.
So infant assess as concerning for physical abuse were more likely than those who were not diagnosed with physical abuse to have a skeletal survey.
And so this is what's supposed to happen.
This reflects the child abuse team recommendations.
And the guidelines that a skeletal.
Surveys needed for all children under two years of age who are suspected victims of physical abuse.
So this is Part 2, Part 2 of the IS the skeletal survey matters. If it adds information to the diagnosis of abuse.
So in this part, we look at children who did get a skeletal survey to determine what factors predicted the detection of non cranial fractures.
So each of these factors in the second part was closely approximated in frequency to those seen in the total sample, except for the last two variables, which are the

concern for abuse and the concern for neglect.
This makes sense because we would expect to see to have more skeletal surveys for patients in whom there was a concern for maltreatment.
So we can see that most of the patient who had a skeletal survey were male or Hispanic and younger than six months.
Most of them had a A history of impact and most of the skull fractures were simple, linear, single and non depressed.
So what variables did not predict non cranial fractures on a skeletal survey?
So patients six months and younger were as likely as patients older than six months to have non cranial fractures.
Let's survey males were also as likely as females to have non cranial fractures on the skeletal survey.
And also race.
So this indicates that all of these variables are not predictor of obtaining non cranial fractures on a head CT.
So what variables did predict non cranial fractures on a skeletal survey?
So patients evaluated at crystal at Crystal's Children's, as I mentioned before, also had were more likely to have non cranial fractures compared to children evaluated at University Hospital.
Also, having a complex fracture was associated with a positive finding or finding a non cranial fracture on the skeletal surface.
So those are the verbals that predicted finding non cranial fractures on a skeletal survey.
Part 3.
The power was abuse diagnosed in children presenting with skull fractures.
So the child abuse team out of those 170 patients who were assessed with a skeletal survey, the child abuse team assess 27 patients as concerning for abuse.
Children presenting with multiple skull fracture or non cranial fractures were more likely to be diagnosed with abuse by the child abuse.
So how was abuse diagnosed in children with negative skeletal survey?
So no, no positive findings on the skeletal survey, but they were diagnosed with abuse.
So in this 27 patients that were diagnosed or had or that were diagnosed with a concern for physical abuse.
Age, gender, race and ethnicity were similar to the overall study.

Population. But of note, all of of this 27 patients, 17 had negative skeletal surveys. So this 17 patients, the abuse concern was based most of them 10 out of 17 patients because of the inconsistent history that the history provided by the caregivers did not match the mechanism.
For the injury.
Or the development of the.
Child. Also there was some.
There was diagnosis of of abuse based on cutaneous injuries, so bruises, most of them, and also in three out of the 17 cases there was, there was a confession by a caregiver.
So basically, the majority of these cases, 17 out of the 27 patients were diagnosed based on history and the physical exam, which is information that we should generally gather before ordering a skeletal survey.
So did the skeletal survey make any difference in the diagnosis of abuse? So out of the 170 patients who got a skeletal survey, 10 had non cranial fractures that contributed to the concern for abuse. So out of these ten patients, five of them had classic met.
Lesions which are fractures that are highly specific for physical abuse.
4 out of 10 patients had acute or healing refractures.
Which are also highly specific for for physical abuse and one of one out of this 10 patients had an acute femur fracture and no history was given to explain to injury.
So here we can see a the our second case.
This case is about a two months old who presented to the EB with caregivers also for a soft or squishy spot on on her head.
So caregivers reported that they noticed the soft spot on the child's head that same day that they brought him to the Ed.
Caregivers denied any history of falls or trauma but reported.
That the child was under the care of other caregivers during the previous days.
So.
Based on this, all of this information, the history, the physical exam, a skeletal survey, and also had CT was done and it showed.
A depressed right paratal skull fracture. So a head CT was done 1st to check for for the because of the squishy spot. So then.
Because of the.
The fracture, then a skeletal survey, was also done.

And there was a classic metaphysical fracture on the right distal femur. We can see it. That fracture is right here on this corner.
So this is a a very specific fracture.
Concerning for concerning for physical abuse. So in this case it was a a skull fracture and the skeletal survey added some additional information.
About a fracture that is highly concerning for for physical abuse.
So we also had some patients that had non cranial fractures on the skeletal survey, but the child abuse team assessed the child as not concerning for physical abuse.
So why was that?
So there were three patients that were found with this characteristic. So the first one is a three month old with a history of being dropped by Father.
Father was starting her and father.
Drop her and the baby. I fell to the to the floor and hit the left side of her head and her body.
So a skeletal survey was done in that case and it showed a skull fracture and also a acute left clavicle fracture.
So in this case, even though the child has an additional or a non cranial fracture on a skeletal survey.
Both fractures are adequately explained.
By by default from Father's arm.
So the second case was a nine month old.
Have she had a skull fracture?
But also had was found to have a healing abulsion fracture on the left thumb.
So in that case, caregivers reported that a previous instance a couple of weeks earlier where a door closed on the child's finger, and that that's what what caused the fracture.
So here we have a history for. For the additional fracture found on the on the skeletal.
Survey. And then there was another case of a one month old that fell from Mother's arms while being fed during the night mom fell asleep at the base. Sal from from her arms and in this case also as the skeletal survey show, a skull fracture and also.
A acute clavicle fracture.
So also in this case.
The Bose fractures could be or can be explained by the history provided by the caregivers, so the.

Diagnosis was or nonspecific or no concern for abuse.
So study implications.
So did the skeletal survey matter? So out of 13 children with non cranial fracture non required treatment.
Ten had fractures that supported the diagnosis of abuse.
One had a fracture that supported the diagnosis of neglect that was the child with the abulsion finger of the thumb.
Oh, and then two were assessed as nonspecific for abuse or neglect.
So age, gender and and race so as gender, race did not predict getting a skeletal survey or diagnosing abuse.
And while this was a very select population of infants and children with skull fracture, this finding specifically is in contrast with previous study.
That it shows that previous study has showed that there is an increased likelihood of abuse work up and diagnosis of abuse.
I'm on minority children.
And also there are other studies that have reported that abuse is more common in infant less than six months old, compared with infants between six months of age and 24 months of age.
So this was a slight difference from previous studies in our study.
So why were the consulting hospitals different?
So these findings 'cause we we got the data are from CHRISTUS children's or from University Hospital so.
These findings may represent differences in clinician discipline.
Also, this differences in pediatric radiology expertise, adherence to the clinical pathways I showed earlier.
Or also, even though we are in the same city, different patient populations.
It also may be that some clinicians prefer guidance before order skeletal survey, another test and others feel more comfortable and prefer obtaining the test before consulting on the diagnosis. Consulting the the child abuse team.
So, do fracture characteristics help with the decision to obtain a scheduled survey or for the diagnosis of abuse?
So in most cases, complex and multiple scler fractures were identified on skeletal survey.
And it did not impact the decision to get a skeletal survey.
So specifically depress skull fractures. Might probably affect the decision to obtain a

head CT, but more in the surgical part because children could have intracranial hemorrhage due to the depressed, the depressed part of the fracture.
But a complete abuse work up, including a skeletal survey, should be done specifically for children with complex or multiple scroll fracture based on the that of the.
That we obtained during this.
Study.
So extraaxial hemorrhage.
So for the most part, all of these extra axial hemorrhage were either subdural, subarachnoid, or epidural.
They were small and they were underlying the fracture site. So while many children were hospitalized overnight to monitor for neurologic symptoms, this hemorrhage did not expand and children did not develop any any.
Neurologic symptoms and not all children in in this study underwent a head CT, so in the majority of the cases, the decision to order a skeletal survey was done before obtaining a a head CT.
So.
Some did the skeletal survey matter for the abuse, for the diagnosis of abuse.
So this study found that the lack of history or.
No or history of no impact influence the decision to obtain a skeletal survey, but did not predict that the finding of non cranial fractures or being diagnosed with abuse.
Because as I mentioned earlier, out of the 27 patients, 17 were based on history, which includes inconsistent history or it's not adequate for the development of the child.
Also caregiver confession, which can can be obtained during the the part of history taking and also a good physical exam or cutaneous findings. So.
These results or our results emphasize the importance of obtaining a good complete.
History that includes a developmental history and also a physical exam.
So some take away points. So our results suggest that most children under two years old who present with a simple single fracture.
A consistent history consistent based on the development of the child and the injury, and no concerning cutaneous findings on the physical exam, these children may not need a skeletal survey.
But the key part here is that a detailed history and a consultation with a child abuse pediatrician can help in obtaining what information should be obtained from the

history and examination.
Of for any cutaneous injury is very important in this case.
So some of our limitations, the study was that it was retrospective design that data was collected from existing records.
We had no controls over potential Co founders.
The sample size was small.
The number of patients with additional fracture was probably small, 13 total cases.
This might have affected statistical power.
There's also potential for documentation bias.
So some findings, specifically history of impact or the history that's documented on the on the chart.
May rely in.
Relies on documentations from the medical records and the and the providers, which may not always be complete or complete or or accurate.
And also within there was limited follow up. So since children with skull fractures and low or no concerns for abuse did not get a follow up skeletal survey, there is a potential that there was some missed non cranial abuse specific fractures that we couldn't see because a follow up.
Skeletal survey was not done.
So here are my references.
And any questions?

Kamat, Deepak M 42:14
Thank you, Doctor Reyes Ruiz for that wonderful presentation on schedule to survey.
There is a question in the chat box from Doctor Lipsit.
Would you ever recommend an abbreviated schedule to survey that includes long bones and chest?

R

Reyes Ruiz, Daniel E 42:31
I'm sorry. Can you can you repeat the question again?

Kamat, Deepak M 42:33
Would you ever recommend an abbreviated skeleton survey that is long bones and chest, not the not the 21 views, but just limited to long bones and chest in children with Skeletor with skull injury, I guess.

Reyes Ruiz, Daniel E 42:51
So we yesterday I was in a lecture and I noticed also that that some some clinicians order.
Specific parts of the skeletal survey, not the complete skeletal survey, but that's specifically in infants that don't have any any fractures in the initial skeletal survey. If our our protocol here at Center for miracles and what I've learned is that always. Please order a a complete skeletal survey every time.


Kamat, Deepak M 43:27
OK.
Any other questions, comments.


Williams, Janet F (Dr.) 43:46
What do you recommend if you're in an outlying area and you don't have a child abuse specialist to call?

Reyes Ruiz, Daniel E 43:57
What I would recommend in this case is.
So the key part here is a a good history.
Specifically, so when we get this, when we go and get this history, we get as much detail as possible from what happened from the incident.
We ask parents to actually reenact what was happening.
Where were they sitting?
Where was the kid place or where did they go?
Like a very, very specific history.
And and think about if what they are specifically saying matches with the development and and and the type of injury that that the child has and also the physical exam is.
Really important in these cases, so I would rely on on the on the history and and the physical exam.
Hi, doctor kissoon. Sorry.
I'm here with Doctor Dean Ruth. If you are here in South Texas, you can call us.
We, even though we don't have access to medical records in this area, San Antonio and much of South Texas, you can call us and we can help you in you know talking

through things. What kinds of things you need for history and things like that were available 20.
47 on our on call phone.

Kamat, Deepak M 45:26
Thank you.
There's another question in the chat box upon Doctor Rizvi.
Have you seen humorous fracture with many puncture in a one year old?

Reyes Ruiz, Daniel E 45:38
Have I seen fractures? I'm sorry.
I'm sorry, I can't hear you well.

Kamat, Deepak M 45:40
Have you seen?
Have you seen a humorous fracture with venipuncture? When they draw the blood in a one year old?

Reyes Ruiz, Daniel E 45:49
With a vena puncture.
No, that should.
That shouldn't happened with a normal blood draw like humorous fracture should not occur with handling normal handling of a blood thrope no.

Kamat, Deepak M 46:03
Doctor Rizvi, you may be asking for a specific reason.
Can you? Can you speak up and say why are asking this question?

Syed Rizvi 46:10
Yeah. Can you hear me?

Kamat, Deepak M 46:11
Yes, we can hear you. Yeah.

Reyes Ruiz, Daniel E 46:12
Yes.

Syed Rizvi 46:13
OK, the reason was that because there was no history.
Because this is where small kids send for the blood draw and eventually develop the hematoma.
And and when the X-ray was done, they we found out there was a fracture there.
Humorous fracture. There was no history of fall, nothing like that.
So skeletal survey was done.
It was negative, so it was hard to see, you know, whether it's in my experience of like 30 years practice have not seen one.
So I was wondering, you know.
Where how much? You know the red flag should be raised in these cases.


Kamat, Deepak M 46:45
Thank you.

Reyes Ruiz, Daniel E 46:45
So.


Kamat, Deepak M 46:46
Thank you.

Reyes Ruiz, Daniel E 46:48
Yeah, yeah. So a normal, typical blood draw from a child shouldn't shouldn't cause a a humerus fracture.
So that for us that will be highly concerning for abuse and we would get additional history, talk to the parents and do the whole investigation. And in that case, if there's concern also, it was a one year old if I.


Kamat, Deepak M 47:12
Yes. Yeah.

Reyes Ruiz, Daniel E 47:13
Heard correctly so in.
Yeah. So in that case, it will be the the whole work up, yes.

Syed Rizvi 47:20
OK.
Thank you.

Reyes Ruiz, Daniel E 47:20
And yeah, and that will include a. So if in that case, doctor, if you didn't see anything on a on a skeletal survey, we would recommend also a follow up skeletal survey in 10 to 14 days after to look if there was if there was any missing if.
There was any fracture in the first skeletal survey that we didn't see and then we see some healing in the follow skeletal survey.

Syed Rizvi 47:46
OK.
Thank you.


Kamat, Deepak M 47:48
Thank you.
Any other questions, comments, photography is.
Doctor Luka for like to your presentation, he says great presentation.

Reyes Ruiz, Daniel E 48:01
Yes, that's fine. Thank you, doctor Lukefahr.


Kamat, Deepak M 48:07
Any other questions, comments.
OK.
Thank you.
Thank you, Doctor Rayas Rosa, that wonderful presentation.
Thank you all for attending this morning's grand rounds.
We're going to conclude.

We'll see you next week, next Friday. Now, next 5 presentations will be given by our graduating fellows.
So all 5 graduating fellows will be presenting every Friday.
Till the 1st week of June. So please do attend and encourage them for their presentation.
I will see you now in about 10 minutes at the faculty.
Meeting. Thank you.

Reyes Ruiz, Daniel E 48:52
Thank you for having me. Good.
Good day.

Kamat, Deepak M 48:55
Thank you.

Kamat, Deepak M stopped transcription