

Portal Education-Anatomy of the 12 lead-20230811_093235-Meeting Recording

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McKinney, Jared 0:04

All right.

Thank you for joining us for our next portal education video.

If you recall during our last video, we talked about the importance of having a systematic approach to reading 12 leads.

Today, we're going to talk about 12 lead anatomy and how that relates to the diagnosis of ischemia and infarct on upcoming educational videos.

We'll talk about the presentation of acute coronary syndrome and acute MI and then look forward to building out some EKG cases.

So with that, I hand it off to Doctor Winkler, our EMS fellow.



Winkler, Kailey Catherine 0:36

Everyone.

I'm super excited to talk about ischemia today because if you can identify this, it's a really important and impactful way to decrease a patient's time to Cath lab.

And so it's really important, like we talked about in the last video, to have a systematic way for reading your EKG every time you wanted to think about is it fast?

Is it slow?

Is it?

Why?

Or is it narrow?

Is it regular or irregular?

Are there P waves and do they correlate with the QRS?

And then what?

Going to talk about today, are there any changes consistent with the schema or other pathology?

And so when you're thinking about this, to diagnose a STEMI, you have to have STL elevation and two contiguous anatomical leads.

And while it might be nice to look at all 12 leads at once, you have to identify 2 contiguous anatomical leads, and so you have to look at this systematically to the

area of the heart.

And so I look at it, I look at the inferior leads, which are two, three AVF, OK, anterior leads V1 through V4 and then look at my lateral leads.

One AVL V5 and V6 and lastly I look for posterior skinnier, which is depressions in your anterior leads, and so any ST elevation is concerning on an EKG and after you look for your elevation, you'll look for reciprocal changes.

There are STEMI mimics out there, but don't overthink it.

If it looks like a STEMI err on the side of STEMI and then just remember that EKG's are dynamic, you may obtain an EKG in the prehospital setting that shows a STEMI with elevation and two contiguous anatomical leads.

But by the time you get to the hospital, that may resolve and so being able to communicate to the other providers what you saw in your prehospital EKG is really important.

So next we'll get into kind of those classic EKG patterns.

First, we'll talk about in anterior infarct, which is your LAD.

And so this is really elevation in V1 through V4.

You'll see on this example you have elevation in V2 through V4 here with reciprocal changes and three and AVF.

Next, we'll talk about in anterior lateral infarct and this has many different arteries that contribute here.

You're gonna have your normal elevation, and your anterior leads, so V1 through V4, but you're also gonna have elevation in your lateral leads, which are one AVL V5 and V6.

Here's another example where you see that anterior elevation and then you again see that lateral elevation in one AVL V5 and V6 with reciprocal changes in three and avf.

Next, we'll talk a little bit about that isolated lateral infarct, which is your left circumflex coronary.

And so this is your elevate elevations and wine, AVL V5 and V6 and this is isolated lateral and so here you'll see another example of a pretty subtle lateral MI.

You have elevations in one and a VL, and you'll see reciprocal changes in three and a VF.

Next, we'll talk about your inferior and FARC.

This is your right coronary artery.

These are elevations in 2-3 and a VF which you'll see an example of here.

Here's another example where you see those elevations in 2-3 avf, and again, you see reciprocal changes in one AVL and your anterior leads V2 and V3, and then the last thing like I said, I look for is posterior schemonia and so on.

This EKG, you'll see depressions in V2 and V3 with an upright T wave, and you'll also notice your elevations in 2-3 and avf.

This at first can kind of look like reciprocal changes, but if you notice those changes on an EKG that are consistent with depressions in V2 and V3 and an upright T wave, that's an posterior STEMI.

And while they're rare, they're very important to recognize.

And so again, when I'm reading an EKG, the anatomy really matters.

I look at this systematically for each area of the heart.

I think inferior 23A VF.

Then I look at my anterior leads V1 through V4.

I look at my lateral leads, one AVL V5 and V6 and lastly I look for that posterior skimmia with St depressions and your anterior.

Your anterior leads with an upright T wave.

Thanks for joining us today to talk about the anatomy of the heart in different areas of ischemia.

We're really looking forward to putting out more content for you all soon.

● **McKinney, Jared** stopped transcription