

Ovarian Torsion/PID

Dr Suguna Ganesan
Obstetrician Sinologist

“Some causes of acute pelvic pain may have an underlying, serious aetiology and require urgent intervention.”

Transcribed directly from MOGCAST Episode 14. Listen here:

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“Hi, all. Welcome to another of the MOGCASTS. I hope you're finding it very useful. I think it's a great initiative and something that you can learn on the run, as well as complementing your lectures. My name is Suguna Ganesan. I'm an obstetrician sinologist.

I speak to you from the Northern Health team of your Uni Melbourne, so some of you might have met me at your lectures as well. Today, what we're going to talk about is some of the causes of acute pelvic pain, it's a very common issue. Most of the times it could be benign causes, but some of them are very important and overlap with other specialties as well.

You could go to GP land, and this would be useful for you, or in emergency, even in general medicine, urology, general surgery, and of course, obstetrics and gynaecology.

Now pain, as I was saying, is very common. But some causes of acute pelvic pain may have an underlying, serious aetiology and require urgent intervention. And it's important not to miss the real cause for that particular pain. So, I'm not going to talk about every single reason for the pain, but we're going to discuss briefly ovarian torsion and pelvic inflammatory disease today.

And when someone comes to you with symptoms as pain, one needs to be very vigilant, in your initial assessment of this patient. I always observe the patient even as I'm eliciting the history. So, your inspection goes with it. Someone with very severe acute pain due to peritonitis or a ruptured viscera is seldom able to move or even a ruptured ectopic, particularly in this specialty. I always start to think, could she be pregnant? Because if someone's in the reproductive age group, you need to be certain that you've ruled out a pregnancy before you move on. So that means you've ruled out an ectopic. Maybe even has she had her appendix out? Start to palpate the patient, touch the patient when you can distract her. Because true tenderness cannot be masked.

Initial tests, I would say arrange for urine b hCG, your full blood count, your CRP. Consider vaginal swabs every time you need to think about a speculum examination. Think of common conditions. First of all, like I said before, if someone's in the reproductive age, think ectopic all the time.

In your examination, I was saying so look for guarding, rigidity, don't forget your speculum examinations, and have a set of differential diagnosis just based on your history and examination.

Amongst the primary tests I would say that would overlap with all causes of pain; a haemoglobin, so just your full blood count will reveal that to you, a white cell count, CRP, group and hold. If someone comes in with fever and acute pelvic pain, consider organizing blood cultures, beta hCG, just a urine stat would be even good, an MSU, because things like urinary tract infection can cause any of these things. And then we'll move on to imaging.

The common things that we do is ultrasound, easily available, non invasive Most emergency doctors can do a fast track ultrasound, sometimes x-ray, and then we move on to things like CT and MRI.

So let's now draw this story back into our ovarian torsion. So the normal ovary is only about three to maybe

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even four centimeters in its size. It has a series of little follicles. Sometimes one of them could be in its dominant phase or about two centimeters width, depending on their stage of the cycle, but occasionally you've got an overproliferation of ovarian stroma due to different reasons. Multiple reasons. What happens then is if the ovary is of a large size, because of its sheer size, it can actually twist on its own pedicle.

So, the ovary is held by a pedicle through which the artery and the vein run through. So, when it twists on its own pedicle because of its sheer size, volume, and weight, it can cut off its own blood supply. This could be because of a cyst in that particular ovary causing that volume to be large, or it could be an actual ovarian mass, but it's essentially never less than five centimeters. So, anything over five centimeters of volume the ovary you may need to think about an ovarian torsion.

Now, the reason why torsion made its way into this list is because it is an acute gynecological emergency it requires prompt, surgical management, and it also can be notoriously difficult to diagnose because it's got a set of varied symptoms and signs. And essentially, I would call this a clinical diagnosis. If you don't think about it, you will likely tend to miss it.

Now sometimes the ovary can twist and untwist on itself, which means that you might have symptoms. So, somebody may come with acute pain, but on history they would say, look, I've had sessions of such acute pain and then it got better and then it came back again. So, ask these questions in a history, right?

Now the simplest diagnosis that you can make is if you've got a raised white cell count, may or may not have a raised CRP as well. The patient is in pain, maybe one sided, it could even be bilateral. And any of these situations, when you send this patient out for your ultrasound, you need to tell them to rule out an ovarian torsion, because they will then understand that's on your clinical radar.

On ultrasound, when they send you back a report, what you would need to decipher from that report is if they've described an enlarged ovary. Sometimes they would even describe those peripherally displaced follicles. And that's because of the raised, what would I say, interstitial pressure within the ovary. The lymphatics are impaired. Venous drainage is not actually able to happen, so that sort of ends up having a large volume of that ovary. Sometimes you could even have free fluid in the pelvis, which is the release of the transudate that can be seen in the pelvis as a small amount of free fluid.

The entire ovary looks a bit darker than usual, but it can have a varied appearance, but for the most part, yes. And colour flow can sometimes be impaired. Even if it is there, it can also be compared to the other side ovary and there would be a difference. So. it could be reduced or completely absent. That's a very important sign. Now, when you've got that sign, sometimes even with or without the colour flow to be your best friend, you may need to consider taking this patient to theatre to do a diagnostic laparoscopy. And if it is an ovary that has been, completely damaged and necrotic, then this is an emergency that needs to be removed so that the patient's life is not in danger.

So that's about the ovarian torsion. Like I said, it's clinical. So if you're considering an ovarian torsion, every single test that you've done, every single question that you've asked in the history, all of those interpretations draw back to the original conclusion that you had.

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And moving on into Pelvic Inflammatory Disease, again these patients can present with acute pelvic pain. Sometimes it could be acute on chronic, sometimes it could be mild dragging pain. But it's never just about pain when you talk about a PID. They've got intermenstrual spotting that they would give up to, or they might even have, frankly, large volume bleeding in their cycles. They may give a positive history to a vaginal discharge. And if you probe it further, they will say, yeah, it might be smelly or a different colour. And occasionally they might also willingly give you a history that they've had fevers or she might even present because of an acute fever. So all of these sort of tie into pelvic inflammatory disease.

Like I mentioned for the ovarian torsion, this again is also an essentially clinical diagnosis in your mind before you can actually move forward with the other tests and what else needs to be done. But for the most part, PIDs happen from sexual transmission. So remember we talked about a few essential blood tests or screening tests that you would do when you're evaluating someone with pelvic pain. So your full blood count, your CRP is all there, but if you're considering that they've got a temperature, then you will organize a set of blood cultures before you think about treating them with antibiotics or anything.

Now there's a few sort of specific symptoms that I always think about when I'm considering a PID. Pain. Now the pain could be mild pain, severe pain, it could be a seasonal pain. So pain can be a very important symptom. Vaginal discharge. Malodorous vaginal discharge. It's a very classic sign of a PID. Fevers, chills like I said, abnormal uterine bleeding, dyspareunia. So go ahead and ask the patient if she had any painful intercourse of recent.

And also do not forget that it could also affect the urinary tract. So burning, frequent micturition very important. And when you're there, patients can sometimes say, I might have, I know that there's some lesions and there's sometimes like things like herpes simplex, which might not fit into that discharge intermenstrual spotting, but ask leading questions of that description.

Now, when we think about PIDs, there's also a few risk factors that one needs to bear in mind. This is more likely in a sexually active woman less than 25 years of age. Someone who says yes to multiple sex partners. polygamous relationship maybe, definitely not using a condom and particularly don't forget to ask them if they've had a previous history of a PID or an STD, maybe a recent Mirena intrauterine device insertion or any form of cervical manipulation that might have happened and even sometimes I'd say women that have the habit of douching regularly because what happens then is it upsets the acidic balance of the vagina and doesn't help the body to naturally combat any colonization.

Now I talked about risk factors. On the same vein let's talk about things that actually protect against PID. The pill protects against PID because basically what it does is, you must have learned that in another lecture. So, the cervical mucus actually gets thicker, it gets more viscous, so an outside interference cannot come inside, so it really helps that way. It alters the immune responses and actually fortifies the uterus. It also decreases the blood flow, so both ante grade and retrograde, so much less chances of anything ascending inside. Of course, we talked about not using a condom. So barrier contraception does protect particularly barrier contraception with spermicidal properties. So that's a very useful thing that protects against PID as well.

Now in Australia currently, I'd say the most common organism that causes PID is still chlamydia.

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It was chlamydia when I was studying and it still is chlamydia. It causes about 25 to 50 percent of all PIDs, but chlamydia always drags along with it gonorrhoea. So chlamydia, gonorrhoea. Other things could be streptococcal infections, trichomonal infections many other bacteroids can also cause it.

With all this in mind, remember, we did a baseline test, we had the same story in investigate, in inspection, in palpation, and the preliminary test, but now, we are going to do a speculum examination as well, and at this point, we consider doing an endocervical swab, and a high vaginal swab, okay? And if you've got lesions that's suspected of, HSV then do a direct swab over the lesions as well. Now that's an important thing. Put them in separate little tubes and send them off. Don't forget because you will likely be the first person that examines the patient and once this opportunity is missed it usually gets missed.

Organize a full STI screen as well because HIV, syphilis, HSV, chlamydia gonorrhoea, all of those things go hand in hand. Now we talked about doing a midstream urine sample before. Definitely consider doing that midstream urine sample and also first pass urine is what picks up chlamydia and gonorrhoea and PCR on the urine. So get the patient to be able to do both, and then you make sure that it's still you still haven't forgotten about your ectopic. So make sure that ectopic is ruled out.

So pregnancy test is negative and then you move forward and organize an ultrasound. Ask for them to do an ultrasound with a transvaginal one as well because you're particularly looking to see if there's any suggestion of, just salpingitis or could this be a pyosalpinx, that means pus, or you know anything of that sort inside of the tubes.

So that sort of segues us into what sort of tests do we do in terms of imaging. Again, good old ultrasound. It has a pretty good sensitivity, I think nearly in the order of 90 to 95 percent and it's much more specific once you see, when you can see a tube or ovarian abscess. But occasionally you need to bear in mind that the scan could be completely normal. Not all pelvic infections right away gets into the tube and becomes, organizes itself into a pussy mass. It could just be salpingitis where everything looks inflamed, but that's not something that ultrasound can quite easily resolve. So bear in mind that the ultrasound may give you a hand, but may not give you a hand, but you've got all the other parameters that we talked about before that will make this diagnosis a little bit easier for you.

But on ultrasound, I always document this as linear tortuous fluid filled or cystic structures adjacent to the ovary may or may not have associated free fluid and may or may not have enlarged ovaries as a consequence as well. But occasionally the sonographer will write you a little note and say, there was an, disorganized mass that I saw in the adnexa. I couldn't really delineate an ovary separately. And that would mean that there could possibly be a tube or ovarian abscess, because what happens in infection is all the tissues get sticky, they adhere to each other, and that's how they form scars and the adhesions and things like that. So, they just Manage to find themselves into a little mass.

Now, you might think “hmm, does this patient need to go to theatre?” Now, when someone's in an acute stage of any infection, pelvic inflammatory disease particularly, it's probably not the pertinent time to take someone to theatre because there's a chance that you could disseminate that infection elsewhere.

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So this patient is someone that's going to need IV antibiotics. Followed by oral antibiotics and a review in about three months time with a repeat ultrasound. And only when that mass is completely organized and not really vascular anymore because anything that has an infection is also going to tend to show an increased amount of vascularity.

So once you can ascertain that, then you can move forward into maybe removing that mass or going into laparoscopically and getting it out. In the same vein, I did want to talk about the tubo ovarian abscess and how it looks like. I did briefly allude to it, but this is what we would describe as a complex mass. Sometimes multiloculated mass. Could have a heterogeneous appearance, internal debris, septations, thick walls very vascular. And if you get to the stage of the ultrasound, and you can also ask the sonographer, were they tender to probe pressure? So those are all subtle signs that tells you that there's an acute, active infection going on because of the inflammation, because of the oedema, because of the pus that could be quite painful as well.

Now coming to treatment. It is your broad-spectrum triple antibiotic regime that you do give them. Ceftriaxone, metronidazole, doxycycline, gentamicin. You do need to tell them that they have to avoid sex until treatment is all completed. They need to have their partner names. Name names to get that to be treated and I always make it a point to write a letter to their GP as well because sometimes you see them at an acute phase and you don't get to see them in a stage throughout their lives and that GP might be well aware of who their partners is or are. And so they can also be involved with this chasing up the partner and making sure he's, he is also treated.

So that's the important thing about it, but that's not all that we talk about. When you think about PIDs, what are the complications after this, right? So, after an ovarian torsion, we don't necessarily think that there could be a complication or anything particularly that you need to follow that person up once that is removed, once that's taken care of, the story goes back to usual, but not so with PIDs. Because it's a scar tissue forming situation, it's an inflammatory process everything sort of sticks to each other. The tube can get blocked or even shut tight because of the complication of salpingitis.

What happens then is the egg that comes out from the ovary cannot find its way to meet the sperm that's coming through the cervix. And so you could have an ectopic, sometimes they could meet halfway in the tube and not be able to negotiate further. So the pregnancy stays in the tube. So ectopic pregnancy is a very serious consequence of PIDs. So if you're considering ectopic pregnancy in anyone, you always ask the patient, have you ever had a history of PID before, or an STI before, so it gives you a big clue. About 40 percent of the times, this might result in an ectopic pregnancy.

Infertility, it doesn't mean that they always need to have an ectopic pregnancy, they just simply can't fall pregnant. So about one third of the times they just don't. They're not able to, achieve that pregnancy. Some of them, I did mention about the tubo ovarian abscess, and some of them also have chronic pelvic pain because things are stuck to each other and certain movements can cause pain.

Sometimes things like straining to empty their bowels could cause pain. So chronic pelvic pain and about 10 to 20 percent, if you sit in the gynae clinics, you will find that there's always one person out of 10 that attends to see you just with symptoms of chronic pelvic pain consequence to the PID that they might have had before. The other thing that I think I should say in association with PIDs, it just doesn't affect the pelvis.

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This little infection routine can even go all the way up to the liver, and the liver could have adhesions connecting it up to the diaphragm, which is again a very painful situation. They come in with right upper quadrant pain. So start to think if someone has that sort of a history coming through and they might've had a PID in the past that might have not known. So whenever you're doing a laparoscopy, if you angle your camera out to the front. Sometimes you can even see, this is called Fitzhugh Curtis syndrome, and sometimes you can see it. So untreated PIDs or treated PIDs with scarring can also cause this complication, which is chronic pelvic pain, chronic abdominal pain. That sort of persists for these poor people all their lives.

So this is, in a nutshell, about what you do when someone comes in with pain and how you tease out between the two main things that we've talked about, which is your ovarian torsion and your PID.

Now, clinically, it's important for us to make our minds up, have targeted testing of what's relevant and then how to use the imaging, what information you would expect from your ultrasound, what information you would write in your request form to get the ultrasound, All of those things go to make this whole management more complete.

So I would say, keep your mind open for abnormal vital signs. Make a rapid preliminary assessment when someone comes in with pain. Always rule out a pregnancy. Make a very targeted clinical history. So you've got your mind when they've said certain things, what this could be. So pain, bleeding, any other systemic symptoms.

Have your access to a fast ultrasound and bloods, I would say again. So your full blood count, your CRP, if relevant, an IV line as well. Your group and save if you think someone needs to be going to theatre cross match. Do a simple urinalysis, make sure you've got your MSU and maybe even your first pass urine if you're worried about a PID, beat hCG of the urine, and remember that they might need swabs as well. If you're thinking about a PID, definitely, yes, they will need swabs. And then you can decide whether this patient needs to go to theatre or just needs admission with IV antibiotics and a close watch and what needs to happen.

And also always, whenever you've had a patient that you've had such an acute phenomenon, make sure you call them back, in six weeks or three months as the case may be to follow them up to make sure that they have recovered from it. And if it's PID, don't forget sending out that letter to the GP and doing all their partner testing and treating as well.

Alright, I hope you enjoy your term, and I hope this was useful. Thank you.