A Narrow Window of Opportunity: Diagnosis and Management of Rheumatoid Arthritis in Underserved Populations

Podcast 1: Case Study | Run Time: 17:33

L Friedman: [00:00:06]
Hello, my name is Luis Friedman, and I am a general internist…an outpatient General internist, in Woodbridge, New Jersey, and I'm here with Dr. Prabhakaran. And I'll let her introduce herself as well.

S Prabhakaran: [00:00:19]
Hi there, this is… Sajina Prabhakaran, I'm a rheumatologist at Capital Health Rheumatology Specialists in Hopewell in New Jersey… and we're going to spend some time talking about rheumatoid arthritis through a case presentation.

L Friedman: [00:00:36]
So, I think…I guess I'll start off…. Uh…We have a 20-year-old African American woman who presents to the Rheumatology Clinic, with their father, with no past medical history... With complaints of joint pain over the past four months. HPI is onset of symptoms about four months ago, in the right hand over the knuckle, the second finger and slowly progress to involve the other fingers and wrists, knees and ankles. She sets her alarm to wake up an hour before her usual time to give herself time to loosen up with about…oh… I'm sorry… with ibuprofen 200 milligrams, three times, twice daily which seems to take the edge off. She's tried preg…oops…um…hmm… um…She's now using ibuprofen. Ah… lately, she's noticed epigastric pain and nausea. A review of systems for fatigue, chills at night, swelling of the fingers in the morning and dry eyes. History of Lupus in a maternal Aunt. Otherwise, family history is non-contributory. She denies smoking, drinking alcohol, using illicit drugs. She's a student at Rider University. I think we'll stop right there, Dr. P, and…um…maybe…ah… if you could review the epidemiology of rheumatoid arthritis and how it relates to our patient.

S Prabhakaran: [00:02:09]
Sure, absolutely. So, so rheumatoid arthritis is one of the more common inflammatory artho diseases that we see in clinical practice. It's certainly more common in the temperate… in... ah… climate zones, although, um, we are picking up more RA diagnoses in the, um, tropical zones as well. But…and it may be partly related to underreporting the previous lower incidence. Interestingly, in the United States, we do see a good number of incidents of rheumatoid arthritis among the indigenous population as well, which is surprising. But by far, this is a disease of the young woman. So that's, that's the classic patient that we have here…a young 20-year-old African American woman…the incidence is certainly higher among the African American population as well as the Hispanic population as well. So…umm… looking at the…a… distribution… it is… it is mostly a disease of the young…. there can also be an increased incidence of rheumatoid arthritis in our senior citizens as well…so it's got a bit of a bimodal age distribution. Umm…yeah…so yeah, I would stop at that but epidemiology, yes.

L Friedman: [00:03:16]
Okay. Umm…like I said, I have…some ques…. Okay…umm… Okay…ahh…so at this point…umm…we'll go through the physical exam. Umm…Temperature is 98.7…heart rate of 78…Blood pressure, 110 over 72…pulse... ox 97 percent on…on room air. Ahh…HEENT exam… sclera anicteric… no pallor…no thyromegaly…reduced tear film… Abdomen exam, benign… heart and lungs normal as well. CNS exam reveals a positive 10 L sine and the right wrist but no muscle atrophy. Musculoskeletal exam…and this is key…I suppose… erythematous, warm skin and synovitis of the metacarpal phalangeal joints of bilateral

hands…worse over the second mat…MCP…synovitis of the wrists… and knees with associated pain…with active and passive range of motion. Tenderness with swelling… overlying the metatarsal phalangeal joints…of both feet… and discomfort with passive and active range of motion of both ankles. There's a lot there….so…ah…going now to the physical exam, I…I guess the same… umm…can…ah you sort of relate the symptoms…They seem pretty typical but I'll let you comment as specifically for her.

S Prabhakaran: [00:05:15]
Sure. So…a couple of things I would probably point out in this case, which, which is very characteristic of rheumatoid arthritis. So, rheumatoid arthritis is…is an inflammatory disease. So, in other words, there is an overactive… which is a term, which the layman would understand… an overactive immune system…where…umm…targeting primarily the synovium of the joints. So, the pain described by the patient is also described as inflammatory joint pain. And that's what this patient here describes. So, this discomfort that's worse in the morning, gets better as the day goes on…there is significant morning stiffness…so the stiffness is…ahh…typically the way you want this ask the patient is, do you feel like your hand is inside an oven mitt? So your joints are not quite easy to move and in inflammatory joint pain the morning stiffness last anywhere from 30 minutes to an entire day or most in some cases…which is what this young woman describes…and there is certainly an improvement with using an anti-inflammatory, such as over-the-counter ibuprofen or higher doses of ibuprofen…Uhm…Joint pain is associated with stiffness… can also be associated with swelling, which is the typical characteristics of inflammation. So, there is swelling. There's warmth. There is heat, which is what this patient describes…and what we found on examination… disassociated erythema of the joints as well. We talked about synovitis and the …ah…um… the description is that the metacarpophalangeal joints pf both hands. So, in rheumatoid arthritis, the classic description is bilateral symmetrical joint involvement primarily of the small joints…so these include the metacarpophalangeal joints, the proximal interphalangeal joints, wrists, elbows, metatarsophalangeal joint, ankles, knees, and the shoulders as well. This is a classic description of rheumatoid arthritis. Clearly, most patients don't present with all the joints being involved at the same time. The second metacarpal phalangeal joint is frequently a sentinel joint…it is usually the first joint to start off….not…not in all cases…however, the majority of patients that is almost always an involved joint in rheumatoid arthritis to the…to the extent that when we do musculoskeletal ultrasound for diagnosis of RA, umm…we usually we placed a probe at the second MCP joint to detect synovitis and inflammation of the synovium, and effusion, which is increased in joint fluid to make a diagnosis or to support a diagnosis of inflammatory arthritis and rheumatoid arthritis….umm…

L Friedman: [00:07:30]
So I can… I have a question…[S Prabhakaran: Go ahead…] …actually, I have a few, but… umm…so, how much variability is there? I know as a primary care physician there many times I'm in the room seeing a patient and they don't…they don’t have such… significant… swelling… but we think about…they have bilateral symptoms and joint pain. And how…how often would I expect to see swelling warmth in a joint or… versus maybe I should…you know, go ahead and consider as a diagnosis if they just…they don't have the swelling and the warmth and maybe ulnar deviation things like that.

S Prabhakaran: [00:08:07]
Correct. Yeah. So, the deformities you're not… probably not going to see it earlier on… so if it's a young patient coming in with fairly recent onset of symptoms, you're hoping you're not seeing I'm not deviation because that would mean more advanced disease. You want to catch them before they get to that point. Ahh… to answer your question, about the detection of swelling or presence of warmth over a joint, not all The time sometimes, in fact more frequently than not your patient has subtle symptoms or if they are very early on in the disease they may really not have significant warmth that you can detect

but that's where the history becomes very valuable. If the patient can give you a good history of inflammatory joint pain, at least you have enough pretest probability to order your serologies and check inflammation markers or whatever relevant test you would do in such an instance to rule in or rule out an inflammatory Tory, arthritis process. This time a family history can also be very relevant. You don't always want to go by it. However, somebody who has a positive family history, pleased that they know of of a connective tissue disease also increases their own risk for having one. So history also becomes very relevant and would play a role in you making the decision as to how far you want to pursue the symptoms.

L Friedman: [00:09:30]
and my second question actually was from earlier when we didn't presentation but with senior citizens is the presentation in someone who didn't have a prior but they presented with it is it similar or their many differences and how they present In our senior citizens, it gets a little bit more challenging because frequently they already have pre-existing osteoarthritis. So now they are presenting with new symptoms over and above what they always had. So it can be, sometimes that it is, you know, inflammatory arthritis, that was undiagnosed for several years. It was very mild. It was very indolent. It was Subacute, and nobody really, it wasn't really big thing that stood out, but more times. And not, there is a Clear change in the pattern of these patients symptoms for. What they've done, what they've already had with low low grade pain or discomfort that they used to manage to what now is significant morning, stiffness, and swelling and so forth, so patients can vary. What we'll be able to describe that? This is different from my base line, a lot of times and then they are quite reliable when that does happen. So just just going back to the question. You asked me about the senior

S Prabhakaran: [00:10:45]
Citizens. I wanted to make one point and I'm sure we'll talk about this later as well. The one other point that I would make mention about is when I have an older individual presenting with inflammatory joint pain while I would diagnose and treat them for our a. I would also always think about malignancy as well as it being a paraneoplastic process. So I just wanted to make sure that I did mention that as well.

L Friedman: [00:11:10]
Dr. P, can you can you give us an overview on the pathogenesis of rheumatoid arthritis? Sure. So so rheumatoid arthritis just like a lot of the autoimmune conditions. The diagnosis is. It's not very clear exactly as to how things happen but there's frequently a two, there are two things involved, there's a genetic predisposition, and then there's an environmental trigger. And in rheumatoid arthritis, the most frequent trigger is smoking. So patients carry the specific hle haplotypes that increases their predisposition for rheumatoid arthritis.

S Prabhakaran: [00:11:45]
However, exposed to when exposed to cigarette smoke. What occurs is situation of certain proteins, peptides in the lungs? Especially so a Citroen in being one of them. So, we are going to be one of them and so forth. And these, when these situation of these peptides are good, they are picked up by the antigen presenting cells, which then carry them over to the synovium. Carry them over to our live. Of nodes and antibodies are generated against these peptides. And that's what starts the process. The immune response that is the root of the issues with rheumatoid arthritis. So now, you have these specific antibodies traveling throughout the body and their primary target happens to be the synovium where we're doing, they bind to these antigens and they trigger a profound immune response. More immune cells including the T and the B lymphocytes more macrophages, which then spill out, all their email kinds. And that in turn, is what leads to the clinical findings that we see in the patient, which includes the

swelling and the discomfort and the stiffness and so forth. So one of the unique things about rheumatoid arthritis is the fact that we do identify that a certain habit, namely smoking does cause does have a room. Important role to trigger the onset of rheumatoid arthritis and patience. I know I think I'd asked you this as we were preparing for the talks before, but a lot of my patients always have questions about diet, about things, they can eat or aren't eating that maybe play a role or supplements and I know maybe this plays into treatment later, but can you comment on whether people talk about anti-inflammatory diets? Is there some value to that?

L Friedman: [00:13:46]
Can you can you touch on that a little?

S Prabhakaran: [00:13:47]
bit? Sure. So this is something that has still been actively studied and of course everyone is trying to get healthy now, which is a great thing when it comes to diet supplements, in my opinion, do not really have a role. I mean, some just for example, turmeric, yes, it does. Act as a, it does have some anti-inflammatory of role, but that being said a healthy diet, certainly is beneficial and unhealthy. He diet namely Foods that's rich in diet that's rich, in processed foods, high amount of salt intake trans-fat, mostly meat based on animal protein based diet as opposed to a plant-based diet. All of these can influence the bodies. But it's inflammatory response. So certainly, we've seen patients with autoimmune diseases, including rheumatoid arthritis. Do better. When they do change their dietary pattern. Does it have a profound role? Probably not. I mean, the example I give patients is. If you have an ammonia, you're not going to stop at Vitamin C to treat the pneumonia. Well, you need antibiotics. You need the antibiotics that vitamin C probably does help a little bit. But but in rheumatoid arthritis, similarly, if you are Following a healthy diet and anti-inflammatory is classified as a healthy diet because it's more plant-based. Less carbs, more high fiber, diet, less animal, protein, less sugar. So these are, these are the characteristics of mainly an anti-inflammatory diet. So that kind of a diet, certainly increases the chances of controlling inflammation. In a patient, it does also to a certain extent augment the response of the body to the medications that we use. Used to. So there is a role for the diet but I would not say that that a poor diet would be a trigger for rheumatoid arthritis. I don't think that's ever been shown or proven but for a long-term management of somebody with an autoimmune or inflammatory disease, following a healthy diet, reducing once BMI to a healthy too healthy range. Certainly exercise. All of this does help. All improve their disease, outcome and improve their quality of life.

L Friedman: [00:16:13]
Listen to get my patients to eat healthier. Okay, and in regarding the smoking, I don't think I ever knew that before, but it has there, since there are less smokers. I mean, certainly we've seen a guy still a lot of patients who smoke but definitely less than say 10 20 years ago. Has there been a concomitant decrease in inara or is that not? Not shown.

S Prabhakaran: [00:16:37]
No, I don't I don't think that smell reducing the incidence of smoking has translated to a reduction in the incidence of rheumatoid arthritis. If anything, the incidence has only gone up and I think partly the reason why it has gone up is also because we have far more sophisticated tests to diagnose, rheumatoid arthritis and also increased awareness amongst providers in general about this disease. So, even though smoking incidents has dropped, I wouldn't say that. The incidence of rheumatoid arthritis has necessarily dropped. I don't know what would happen in the future though as we study the disease longer if things would change. But the incidents currently, if anything is just has increased. And, of course, we see greater incident response to treatment now. But the number of patients with ra, I think it's only gone up

here about two point five, to one percent, I think incidents Global incidence of rheumatoid arthritis at this time,