Academy of PHYSICAL MEDICINE

More Interesting Spinal Case

with Rajiv Bajekal

8th June 2020

TRANSCRIPT

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Steven Bruce:

My guest, as you can see, is Mr. Rajiv Bajekal. He's not only used to cutting into people's spines as an orthopaedic consultant, but he's also won all the UK's lifestyle medicine consultants which we are assured by his wife is one of the most difficult exams you can pass as a medical practitioner. Rajeev, welcome back to the show.

Rajiv Bajekal:

Thank you very much, Steven,

Steven Bruce:

Did you find the same as nature that the lifestyle medicine certification was a tough exam to get through?

Rajiv Bajekal:

It was hideously difficult at least Nitu has some background medical knowledge. I mean, for me as a surgeon I was so far removed from the treatment of blood pressure, obesity, hypertension, you know, strokes. And so on that it was a complete challenge. Plus it was completely new because we learned a lot about nutrition, sleep smoking cessation and things that I never thought I'd need to know anything about.

Steven Bruce:

Well, I think it's one of the things our audience likes about you of course, is that you know, yes, sure. You can cut into people's spines if you have to, but you're also very, very concerned with giving them the right advice to keep THEM away from the surgeon's knife.

Rajiv Bajekal:

In fact, we spend a lot of our time in our group Total Orthopaedics doing exactly that, and were we do need to operate. We can assure your, the people who refer from your group. And as you know, we've got Darren Chandler and Rob Shanks in the group, hopefully they're in the room as well who are part of you know, our group extended group, so to speak. And we worked together

Steven Bruce:

They've actually, they've both given us a very good presentation on interpretation of MRIs in the recent past, coming back into the same man is Total Orthopaedics only in London.

Rajiv Bajekal:

Yes, we practice within them 25 largely. I mean, there's some people who go to actually for the one in hospital at Hatfield, but we're largely, within London, North London and Central London. So we cover most of London. Yeah.

Steven Bruce:

Okay. And we'll, you promised us some interesting spinal cases today, so

Steven Bruce:

Would you like to start us off?

Rajiv Bajekal:

So, I mean, in keeping with last times theme, I thought what we do and if I can share this, can I share the screen right now, please? Okay. So I thought we'd start with a couple of cases and then I'll talk a little bit about nutrition and see if that works for the group. Okay. so this is our group and we're different because we cover all the body parts and we actually work together and we work with a whole lot of other people, as I said, Darren and Rob a part of our extended group. And we during this period, we've been doing a lot of remote consultations, but as I was discussing with Steven we are actually probably going to start face to face consultations with PPE, etc.

Rajiv Bajekal:

Okay. So, the first case is if I can just describe to you is a man who's come in with low back pain, which is of insidious onset. It has worsened over three weeks. He's known to be type two diabetic and has had some weight loss in recent times. So, I mean, from this, just to go back on the previous bits that we've talked about, namely red flags, you can see he's 66. So, he's over that age. When you consider it a red flag, we haven't talked much about intensity of back pain, but if I can tell you that he's been waking up at night with it, that puts him again, the red flag type two diabetics. So he's got some underlying systemic disorder and some weight loss, which was not intentional. All these are of course, signs that there's something more sinister going on or serious going on.

Rajiv Bajekal:

So if we go on to having a look at his X rays for viewers, you can probably appreciate that when you look at an AP view, you really want to see the pedicles very clearly because that indicates if the pedicle is, has disappeared, we call it the winking owl sign. And that kind of indicates that there's a malignant process or a destructive process going on, but here, even though the quality isn't so good here, you can jump really see the outline of the pedicles pretty well on the AP view, but on the lateral view the discerning eye can make out that there's a decrease in the disc height over here, and it's sometimes the earliest and very subtle sign that there's something going on. So given the fact that this man has a whole lot of red flags going on the obvious investigation of choice in somebody like that would be an MRI scan, together perhaps with some blood tests that we commonly do for anybody who has red flags, where you're suspecting either a malignant process or an infection.

Rajiv Bajekal:

So if you get an MRI scan done, you can see here that the disc is virtually disappeared, and you've got a high signal within the disc space, which is indicative. And as you can see, there's also a high signal in the surrounding area together with perhaps a small abscess around the front and perhaps at the back also that we can visualize. So, this is an infective process and you can usually make out whether it's a pyogenic process based on the blood tests and how ill patient is. But remember if somebody is diabetic, so he's got an underlying diabetes, then sometimes there's an element of immune suppression. And you may not get the typical sort of symptoms of being very unwell and patients can just deteriorate quietly. So, we sometimes get a CT scan done because that tells us the bones stability issue.

Rajiv Bajekal:

So it tells us about what bony elements have been distraught. And this looks, as you can see pretty awful because these vertebrae have almost coalesced together. So, you're worried about it. And the key elements to this is really, you can manage these people non-operatively because if you just put them in a brace for comfort purposes, whether the healing occurs with antibiotics the vertebrae just joins together. So it's almost like you're creating a spinal fusion as you can see on this vertebrae the two bones join together over here, so just to talk a little bit about the salient points of this, remember that the lumbar spine is the commonest involved, I suppose it's because of the proximity of the urinary system and the Batson venous plexus, which has a valveless vein system there. So you can get seeding of gram positive organisms, such as staphylococcus aureus, or E.coli and pseudomonas amongst the gram negative things.

Rajiv Bajekal:

And you must suspect anaerobic infections in diabetic patients and in immunocompromised patients. And I read drug users that can sometimes be an element of multi organisms of fungi, even so.

Steven Bruce:

Rajiv could you elaborate on the anaerobic infection process? Why more so with diabetics? And what's the difference?

Rajiv Bajekal:

I think it's just because of immunosuppression that they're more prone to getting anaerobic infections. It's also because, as you know, diabetes affects the vascular system. So there's not much oxygen checking into that area. So, I think seeding by anaerobic organisms is more common and they're more effected by them. So just be aware of the antibiotic prophylactic treatment. I think one of the biggest problems that we get is that these are difficult, to recognise. Sometimes it takes up to two months and people are frequently because it's low back pain. If it's, especially if it's an older woman, then it's often misdiagnosed as a urinary tract infection and GPS will treat them with an antibiotic based on a urine culture. Remember urine cultures are very commonly positive and especially in older people, and it is quite easy to get to misdiagnose it as a urinary tract infection and treat somebody with antibiotics for a short period, which will improve the clinical profile for a period of time until it gets back again. So sometimes there's a time lag between the infection seeding, the area and us making a diagnosis. I'm just going to shut my door. It's got very noisy. Yeah.

Rajiv Bajekal:

Okay. So, as I said earlier, these are the kind of high-risk patients are those in whom there is an element of immune suppression, and we like to do a full blood count, a CV, active protein and an ESR and blood cultures. I mean, remember that these patients do need diagnosis of the organism. So, if you get the organism, you can hit it hard with the appropriate antibiotics. If you don't identify the organism, it's a real pain to get to the diagnosis. So, it's, well worth trying to get the organism before hitting the patient with an antibiotic. And it should only really start an antibiotic treatment if you're sure of what the organism is that is causing it. So, the treatment is pretty straightforward and jumbled. Most patients do really well with antibiotic treatment, usually intravenously for six weeks or so. Often we use an old ptosis and rarely, only rarely do we need to do surgery if there's an absence

or there's a clear neurological deficit. So, at this point, I'll just stop sharing the screen and take any questions that may have a reason unless there are none Steven, and then we can move on.

Steven Bruce:

Oh, there'll be some I'm. Sure. I was going to ask though that a chap like this is unlikely to come to you as a point of first contact. Isn't he, you know, presumably he would've have gone to a GP, so it'll be several weeks potentially before anyone realizes it. Isn't just a UTI.

Rajiv Bajekal:

Yes, absolutely. And that's why I said that the time lag quite often is up to two months because it's, it's sad. But despite the issue about red flags that we talked about, patients don't offer you know or people don't listen to the story very carefully. And if somebody has got this intense back pain that has keeping them awake at night, or is so intrusive that they're really going up on the analgesia ladder and are using opiates, let's say to control their pain, that indicates it's something serious going on. So that's the first red flag here besides the age factor of being over 66 in this case. But in general, we get we do see infections of course, in younger patients, but they often the, either the immunocompromised or people who are using IV drugs and so on. But you really have to have an index of suspicion. So if you have the three things to it, so if you have fever, if you have tenderness of the lumbar spine and the renal angle tenderness, you should think of infections of the spine and it's worth doing a simple C-reactive protein, which will give you a far higher value than if it was just a urinary tract infection.

Steven Bruce:

You, you didn't mention fever or renal angle tenderness for this particular patient. So was he a particularly unusual one or was it

Rajiv Bajekal:

No, I kept it up for discussion really, but if you examined him carefully, he did have all those signs. Yeah.

Steven Bruce:

Okay. A few questions we've got here. Francis asks what bloods are usually done if red flags are present and there's a query about infection, malignancy and so on.

Rajiv Bajekal:

Okay. I mean the, the blood tests in orthopaedics on was almost always similar. So, we do inflammatory markers. So, we do a full blood count. Firstly, we check if there's a leucocytosis, we do an ESR test and we do a C reactive protein. These are the three mandatory things. But I think when you take, when you're suspecting an infection, it's mandatory to take a blood culture. So, when you take the bloods, always send it off for culture. Very often we would have to take a biopsy. And for that, we would ask the radiologist who go through percutaneously and they would put a needle, even under local anaesthetic is fine and they can put it through the pedicle, which is this structure over here. And they go around the base. So, you don't have to really enter the base. You can go into the paradisal area where there's in fact, a greater collection of the organisms because they, the number of bugs that you get is very low, but it's worth taking a biopsy before you commence treatment.

Steven Bruce:

Another question about anaerobic infections from Luke. He'd ask if you could explain a bit more about them, what infections are they?

Steven Bruce:

Which particular bugs?

Rajiv Baj:

Well, anaerobes, commonly live in our mouth. So, you get fusal Bactrian Fusey, for me, this is a particularly nasty organism in human bites. So, you know, people who punch each other in the face and you contact the teeth, you get an infection by an organism called Eikenella corrodens. So all these organisms can seed it, particularly if a patient is diabetic, there is a much lower vascular supply to the paradiscalr, which is the area where the infection bruise, because that is the area where you have endowed, the arteries that have little hair pin bends. So, there's a stasis of blood in that area and diabetes because it involves, the smaller size blood vessels, will result in a decreased amount of blood flow and therefore a low concentration of oxygen. So, they, encourage the growth of anaerobic organisms, similar to diabetic ulcers. For instance, they get more, that's why they found smelling. I mean, if you've ever encountered a diabetic also in a foot, I mean, you can't enter the room almost because of the stench that you get.

Steven Bruce:

Yeah. Sheree is asked what nutritional recommendations you make for a patient like this.

Rajiv Bajekal:

Really the nutritional recommendations are similar to what all of the areas. I mean, I think the key with diabetes is that they don't do very well with high dose high protein intake. So really a diet full of fruit and vegetables lower in in oil, in particular, but also a lot of legumes. So, beans and a lot of nuts and seeds. So almost you know generally a whole food plant-based diet, much lower in processed kind of food. So we would never suggest to somebody to, to have a diet that includes white bread or a kind of processed rubbish that has a label on it, which tells us that it's processed. And I've talked a little bit about that in my nutrition nuggets thing at the end. Okay.

Steven Bruce:

Robbins asked how often you might see somebody with this sort of condition, and I'm guessing he's thinking of people in that sort of age

Steven Bruce:

Bracket.

Rajiv Bajekal:

Um well, we, we probably get on an average two or three times a month in a hospital setting, so it's very steep. But I think this, and the next condition that I'm going to talk about, it's really quite important for people like yourselves who see the patient quite often first up to have an index of suspicion. And it's quite useful to take that history and get those red flags and really have an index of suspicion for the condition, because that helps you diagnose it. But more importantly and I'm sure

that the principle is the same, all round. You shouldn't cause harm. So, it's worth asking for these simple blood tests to be done by the GP or anybody else. Yeah.

Steven Bruce:

Well, given the index of suspicion, as you said, when this chap presented to you, what are your differentials other than infection?

Rajiv Bajekal:

Well, the other key thing is whether he's got a metal metastatic deposit in the back. So quite often they present very similarly. So, infection and neoplasia are the two things. The third that we've seen much more commonly now that people are living longer lives is an osteoporotic fracture. So even an osteoporotic fracture could present in exactly the same kind of manner. So really whatever it is, if you've got the red flags, it's worth doing an X-ray, firstly, because if you're seeing the patient in primary care, quite often, an X-ray is the only thing, unless you're right, that the patient has these red flags, they will not do an X-ray in A&E for many patients. So, it's worth getting an x-ray and then an MRI scan.

Steven Bruce:

So, would you suggest that we send this guy to A& E rather than send him back to his GP with a letter

Rajiv Bajekal:

I would if you're suspecting an infection on the malignant malignancy, based on that triad that we talked about fever, tenderness and renal angle pain. Then I would suggest it's worth sending to A&E with the diagnosis because it's quicker. And the earlier you get an infection diagnosed, the better is the treatment outcome. Right.

Steven Bruce:

Okay. Rocco says, was this patient exerting? Can you have signs of a UTI as well as the lower back pain?

Rajiv Bajekal:

No, because UPI is often very silent. So but, but it often co-exist, so you're quite right that you, you asked the question and that's why I said it's important to do the urine test, but not just three partially with an antibiotic, if somebody is as we got that triad of symptoms and has got red flags with regard to the back pain, because that's what, that's where the penny should drop that if somebody got intense back pain, it probably isn't just a UTI.

Steven Bruce:

Right. Sarah says the prescription that we've got only a, the slide behind me is that just for discitis and infiltration or for infection generally

Rajiv Bajekal:

That is for discitis in particular because it's, in fact we would often use antibiotics even for longer. But sometimes oral antibiotics towards the end so the disc space doesn't do well with antibiotics for

the short term. So unlike, let's say tonsillar infection or a superficial infection, which you can hit with an antibiotic and get better within a few days here, you have to do more prolonged treatment with aggressive antibiotics.

Steven Bruce:

John Owes asked them about drug use. Again. He said you said that use of opiates is a serious red flag, but it seems that almost one in five patients, he says that comes to see him is either on a Gabba or Tramadol and with frequently or oral morph as well. So, what else can they look for? What can he look for purely clinical to differentiate UTI versus discitis?

Rajiv Bajekal:

I think what I, what I wanted to say, and if I didn't get that across my apologies, but really if you see a very rapid increase in the analgesia ladder, so somebody starts off with paracetamol goes up to Co-dydramol goes up to Tramadol, goes on to oral opiates all within the space of a couple of weeks. There's something wrong. And if somebody is not being visiting the doctor very frequently and is now become a frequent flyer, then you got to think there's something wrong. And as I tell my juniors, if somebody has attended A&E, which is a pretty ghastly place in the best of times to go to more than once you really, the onus is on you to rule out something more nasty people don't just turn up in A&E, particularly after Covid. I'm sure they won't.

Steven Bruce:

I mean, it surprises me though that it will be left to an osteopath chiropractor to pick up on that increase in medication because surely that prescription meds, the GP would surely have said, this is too short space of time.

Rajiv Bajekal:

Thank you. That's a very good question, Steven. But first of all, you guys are really good at this. And you drill down deeper than a lot of GPs do remember GP's often, it's not the same GP you're seeing, and if you, you're not looking at the notes very carefully, you fail to pick up on these minor signs. And it's difficult to build up a relationship. Whereas I think as an osteopath or as a therapist of any kind, you have more dedicated time to build up that rapport, get that history and drill down to the problem, which often is much more useful from that point of view. Yeah. Yeah.

Steven Bruce:

Lucy has asked whether in immunocompromised patients, whether the fever would be quite low grade

Rajiv Bajekal:

Yes, very often is so you don't get those spiking things. And that's why I said diabetes is a tricky one because you may not get, and if you're on immunosuppressive drugs, let's say you had rheumatoid arthritis or lupus or something like that. And you're on immune suppression medication. First of all, half those medicines were they in the pharmacopeia when I did my medicine. So, I don't even recognize it. There're some funny names. And they suppress your immunity pretty aggressively. So, you can miss out completely the story unless you Google it literally and check what that drug does in your system.

Steven Bruce:

Okay. One more before you move onto your next case, Mark's asked, what percentage of unintentional weight loss do you think is a significant

Rajiv Bajekal:

I think in general, the patient will tell you that they lost weight. So, I wouldn't have a specific number on it, but it's very unusual. I mean, in this day of food excess, which I'll be talking in my third bit about, it's unusual for people to lose weight without intentionally going on a diet or changing their food habits completely. Right. So, the patients will usually tell you I've lost a bit around my waist and my trousers are slipping off or something.

Steven Bruce:

Right. Okay.

Rajiv Bajekal:

If I may. And I'll run through the next one quickly because I don't want you to miss out on the last bit, which is my, the nutrition bit. So, this is a 74-year-old man who comes to you with low back pain and claudication. And his walking distance is limited to 50 yards.

Rajiv Bajekal:

He has some pins and needles in his hand and a bit of clumsiness with a bit of balance problems. I'm sure most of you would pick up on this, but the reason I put it up is that, you know, pins and needles is such a nonspecific symptom. And most patients who have it in their hands or their feet are thought to have a peripheral neuropathy or a vitamin deficiency or something of that kind. But I think the clue is in this is that he's got a bit clumsy and there's some balance issues. So, you've got to think you have to have an index of suspicion that there's something more going on and that index of suspicion should make you think. Cervical spine because that would give rise to pins and needles in the feet it will also give rise to pins and needles in the hands.

Rajiv Bajekal:

So if you've got, if you've got a disc that's pinching the nerve, you get radicular pain, we all know that you see that it's literally sciatica of the upper limb if you like, but if you have a little more movement of the whole cord, because there isn't much space around it. You can get very diffused symptoms or sometimes hardly any symptoms. So sometimes patients may tell you that they have difficulty in opening the door to their house. So, the lock or getting the ignition on in their car or the walk with a broadbased gate of they've had a few falls and so on and so forth. So really, it's an index of suspicion issue. And the reason you don't want to miss myelopathy, which is what I'm talking about is that it's really quite easy to miss, but it's usually progressive and it never really gets better, but you can arrest it surgically if you pick it up early.

Rajiv Bajekal:

And that's why we want to diagnose it. One of the big issues with myelopathy is you can get patients who are perfectly functional, but they have a little tumble and a fall and the hyperextend their necks, and they literally hit their cervical cord and they become quadriplegic or quadriparetic. So, they become community dependent. So, they go into a nursing home literally because there's nothing else

you can really do for them. So, it's before that stage that you want to catch them and offer them surgery. And it's quite a difficult operation to offer. Because patients don't really have many symptoms. All they have is a little bit of unsteadiness which they attribute to the old age or their difficulty in opening something. And really, it's some small things that will point you in that direction. So if somebody says that they've got electric shocks down the back on flexion of the neck then you got to think that they may have, it also occurs sometimes in MS.

Rajiv Bajekal:

Oh, B12 deficiency. So this is l'hermittes sign, and it's worth noticing, I'm sorry. My slide seems to be jumping. I've pulled it out of some somewhere else. And it's jumping on to the next one, but these are the critical things I think it's worth picking up. So, if you ask the patient to hold their hand out, like, so the little finger will often separate. So, it's called the finger escape sign because the abductors seem to be affected less so than the adductors. So, you have this finger escape. One of the useful things that I find is to tell the patients to do this very quickly. So, if they can do clasping and releasing 10 times in 10 seconds, they probably don't have a cervical cord compression. And of course, there's this test called the Hoffman's test, which you flick the distal phalanx of the middle finger.

Rajiv Bajekal:

And if you see the thumb curling in as a result, that is a positive Hoffman test, which you can see on the bottom left hand corner over here, or you get an inverted supinator reflex. So, all these are subtle signs and you may not get any of them. In fact, it's important just to pick up on these nuances and the history that the patient has a fine movement difficulty. They might not be able to handle the kettle very well while making themselves a cup of tea or something of that kind. Yeah. And if you look carefully at them, they often have these signs of increased tone in the lower limbs with an upgoing Babinski. So, the big toe goes upwards and they get clonus and so on. And really the key element on the MRI scan is that you can see here that, you know, the white bits in the cervical spine is CSF and the bit is the cervical cord.

Rajiv Bajekal:

So, you can see at this level that there's virtually no CSF and with the eye of faith, just where my cursor arrow is, you can see there's an increased area of signal within the cord. And that is what is called myelopathy. So, in other words, there's a change in the signal intensity, it's a higher signal intensity, but the giveaway is really, if you do an axial image, you can see here that the whole of the cervical spine is filling that space. There is no white CSF around it. So, there's no space at all. Essentially this is cervical spinal stenosis. Now if you, imagine this patient takes a tumble and has a fall, and maybe hits his head against something you would hyperextend his neck. And that really tinctures the cervical cord and causes the cord repeat paresis that we talked about.

Rajiv Bajekal:

So, we would often have to sell this patient who's relatively asymptomatic and operation. And as I was trying to tell you earlier, we don't operate unnecessarily, but this is one of those situations where there's a good chance that the patient was active in the community and is living a perfectly independent life may become dependent on hospital care. So, we'd often put in a couple of cages, as you can see, and because of the metal artifact, I can assure you, you can't see the CSF, which is this

white floor, but it was a present all around it. And the patient did really quite well and got out of it. So I'll, again, stop the sharing right now and take some questions on this. If there were any,

Steven Bruce:

It turns out that this is very timely, Reggie, because Sasha has just said she had a patient today who has mild pins and needles in her feet, only on neck flection and there's symptoms in her hands and no electric shock feeling. Could that be indicative of cervical cord compression

Rajiv Bajekal:

If the patient is elderly? There's usually a chance. I mean, normally the cervical spine has plenty of room. So if you look up something called spaces of Stevie a third of the area only is occupied by the cervical spinal cord. There's plenty of CSF normally around it, but if you've got an older patient the three common things to think about certainly is cervical spinal stenosis or myelopathy leading to myelopathy. The ms is another thing where you can get these electric shocks, like sensations and vitamin B12 deficiency. That is again, increasingly common and people, most people should really supplement with B12.

Steven Bruce:

Yeah. And I just on a separate note, I mean, who's not watched the interview I did with Tracy Witty should have a look at the video on our, on our recording space because yeah, it was an eye opener about B12 far more significant than I would have imagined. And far more common as you just said, more cause asked how often you see L'hermittes sign.

Rajiv Bajekal:

Not very commonly at all, but sometimes, you know, you, you get patients who say they get these funny electric shocks, like sensations through their body. They may not give the classic book, barber's chair, sign of limit as he described it. But probably about 30, 40% of patients who have myelopathy, will give you some of these long track signs and symptoms and limits is one of them. Yeah.

Steven Bruce:

Okay. And Rocco has asked if surgery is the gold standard intervention for a mild presentation of cervical myelopathy.

Rajiv Bajekal:

Yes, it is. And unless you were absolutely unable to do it because the patient had co-morbidities and often these elderly patients, and you know, you don't particularly want anybody to die during an operation, but there is a risk, Oh, either death or paralysis. In fact, by the, that's why it's quite a difficult operation to sell to a patient because if they don't really have symptoms and you're telling them, well, you could die or be paralyzed, they wonder why they're having it done, then, you know, so yes, they can manage perfectly well and will manage probably 50% of the time, but all it needs is one tumble. They are one tumble away from pitting their cervical cord so it's worth thinking of surgery

Steven Bruce:

Again, most in case one here, because Berwyn has asked about the two patients she had, they both swim in the London fields, a heated, outdoor swimming pool turns out both of them had an infection. One of which she diagnosed, is there a connection, do you think between them both swimming in the same

Steven Bruce:

Water that could, that have led to an infection that is extraordinary? You know, I'm well, I'm sure that there is probably a something causing that. So, but I haven't heard of this and haven't seen a similar kind of presentation ever before.

Steven Bruce:

And Mark's asked whether you sometimes see dizziness on cervical spine extension with these myelopathy patients.

Rajiv Bajekal:

No often dizziness is just because of whatever basilar insufficiency. So, the vessels that go to supply the brain because of the osteoarthritic tendency in that area often the vessels get a little bit impinged upon so you can get dizziness as a result of that not usually due to cervical myelopathy.

Steven Bruce:

Okay. I know we've only got 10 minutes left. Did you want to move on to your nutritional?

Rajiv Bajekal:

Yeah, very happily. So back to screen share. So let's see if I can. Yeah. I just thought it's Covid time and it's worth discussing one of the major issues that we seem to have and that's this is a country where two thirds of people probably slightly less than American. We are getting bigger and bigger. And we tend to put on quite a lot of weight around our bellies in particular. So just for those you know, who want to draw attention of some patients to the fact that they might be overweight, the simple way of doing this other than BMI, which patients may not wish to calculate is to put a tape around your umbilicus. And if your measurement is more than 40 inches for a man and 35 inches or 34.5 inches for women, then they probably have a bit to lose before they get into problems.

Rajiv Bajekal:

So this is one of the major risk factors of people who do badley from COVID-19 and the prime minister himself acknowledged that he was a bit more pokey than the health secretary and the chief of the NHS chief executive who did better. And they obviously had the same strain of virus caught at the same time because of lack of social distancing. So the real thing to remember here is that there are two elements to a fat in the abdominal area. So subcutaneous fat tends to produce a lot more oestrogen. So they're hormone generators and are particularly important. Therefore, if you're overweight, you have a risk of getting breast cancer and ovarian cancer and so on. So those are lifestyle related cancers. But you get these produce oestrogens, whereas intra dominant fats have the deeper fat that is visible, provides produces inflammatory cytokines.

Rajiv Bajekal:

So, it's quite important to get rid of it. Now, how do we put on fat, I think the biggest problem is processed food. So, I thought I'd talk a little bit about processed food. Quite simply processed food is one where nothing good is removed and nothing bad is added. So, water, for instance, it's easily removed, but, and it can. So, if you remove water, you can store that food more easily. And that's why people take it down. The other important ingredient though, that people often remove is fibre because fibre isn't the brand of the grain. And it's also a day in the germinal layer between, and these two things, if you remove and you're left only with the endo sperm of grain that has really bad. So that's what you'd see in processed white flour, for instance fibber is particularly good for our microbiome, which is all the bugs that live within our intestines and a minimum of 30 grams per day is what is recommended besides that the micronutrients, namely vitamins minerals, phytonutrients, which are plants, nutrients, and the oxygens are all also removed in processed food.

Rajiv Bajekal:

So, you add it then sometimes artificially using you'll see bread that is fortified with thiamine, for instance, or some other vitamin. And it means the first taking it all out because it stores better and then added it in artificially as a powder. So some processed foods are still considered good for health, for instance, soya milk or tofu, they still consider it very helpful. And I think Nitu need to talk to your group, last time about it. So, they still consider Greenlight foods. But the other thing you should look out for in any sandwich or any processed food, which will always have a label. So, remember vegetables and fruit and legumes or beans, don't have to have labels. You don't have to because they're not processed. But if it has a label on it, that's telling you something it's often that it has process.

Rajiv Bajekal:

So, the numbers are particularly bad. In fact, the emulsions. So, they're added to give you that you know, emulsifying agents, which are really, really harmful for our body just to introduce the term phytochemicals, this is what gives plants, their distinctive colour smell and taste, and they have many health benefits. So just to outline a few, for instance, sulforaphane in broccoli and broccoli sprouts is particularly good for preventing cancer as is the active ingredient in garlic. There are hundreds of these substances and there absolutely thousands actually. So, turmeric for instance, has the Oscar winning thing called curcumin in it. And it goes particularly well with pepper. And these are phytonutrients that help us fight disease. And particularly in the time of COVID, I thought it was worth refreshing your memory with this. I've talked a little bit about the gut and the microbiome, just to introduce you to this concept of the fact that our genome or the entire genetic structure that we made up off 99% of our genome is from the gut bacteria that live within our gut.

Rajiv Bajekal:

And they time on prebiotics, which is fibre and complex starches, the complex starches that get from vegetables like potatoes or the root vegetables, which are excellent for your health. And they get fibre also from plant foods. And they, they produce things that are called post biotics, which are short chain, fatty acids, and they help protect the lining of the intestines in particular so that it prevents dysbiosis. So, invasion by gram negative organisms. If you take a dose of antibiotics that destroys about two thirds or often a third, at least of your microbiome. So

Steven Bruce:

You said a dose of antibiotics or a course of antibiotics,

Rajiv Bajekal:

Of course, of antibiotics, five-day course of CiproFloxacin you are down by a third in your gut microbiome and you really have to cultivate them. So what cultivates these, remember your immune system, 70% of your immune system or gut associated lymphoid tissue is in the intestine. So, it's really quite a vital portal of entry for a lot of the disease-causing agents that are there. And all you have is this cling film, like layer of epithelial cells between the food and the bloodline and the blood layer that you have. So really, you're one cell away from invasion, but all kinds of nasty things. And that integrity of the epithelial lining is due to the fibre that we eat, so how do we cultivate the, that lining we eat the rainbow? So, it's as I said, the, in general, most people will have at least 500 different types of microorganisms, particularly helpful bacteria that live in the gut.

Rajiv Bajekal:

If you want to cultivate more. So, if you want to head towards a better health state you cultivate the guys that need feeding by a rainbow. So, if the more you eat along a spectrum of colourful vegetables and fruit, the more those bacteria thrive, and this is widely known, it's not, it's recognized only for the past 10 years or so. And you all have word about microbiome and its influence on brain health. In fact, the gut health lining is similar to the brain blood brain barrier. So, I just wanted to share this little bit of info about gut health and, and really some nutrition nuggets as I call it. And I'm open to taking a few questions.

Steven Bruce:

Yeah, well, I've got a few which we should be able to fit in without pushing too far past our two o'clock timeline. Claire has asked if you could clarify perhaps the diabetic nutritional advice. She, wasn't sure about the issue around high protein, nuts and legumes.

Rajiv Bajekal:

Okay. So high proteins I mean, diabetes does affect the kidney and if you're taking a high protein and in particular sulphur containing amino acids in the food are branch chain amino acids, which are really found more often in meat and milk and dairy eggs, et cetera. That tends to put a particularly big load on the kidneys, which are as it is functioning badly in diabetes. So, it's better to eat if you can get adequate proteins from all your vegetables and legumes in particular. So, beans from your plant sources. So, diabetes is one area where you should focus on eating lower in the food chain. So, the low hanging fruit is what one should eat.

Steven Bruce:

Jonathan asks why, if the numbers are so harmful, they added so freely to food.

Rajiv Bajekal:

Oh, good question tastes better. Well, if you make humous at home and I'm hoping that during covert times, you won't learn to make a few things, interesting things. I've done a few cookery classes myself and learn how to make kimchi

Steven Bruce:

Nitu was telling us about this during our last broadcast with her. Apparently, you were busy in the kitchen at the time.

Rajiv Bajekal:

Yeah. I got into sprouting and fermenting, so I make not wine, but I make kimchi and a sauerkraut for instance. But I think it's particularly good. Like if you buy hummus from a shop, it often has E numbers because it helps the olive oil integrate into the hummus. So, it tastes better and people like it. So, I mean, a lot of our processed food is made by advice from somebody in the industry called a craveability expert. So, we all like ice creams because they have an emulsion of fat and sugar, and that is enabled by an E number. So, if you look at your ice cream, it'll often have a knee number on it. And we liked that taste because it really helps blend the fat and sugar together very well. So, it is harmful, very harmful.

Steven Bruce:

And the last question by someone who calls himself a cheese grater, for some reason, I'm not sure why he's asking about the fact that you would need to have both board-certified lifestyle medicine practitioners he's asked about that course. Is it open to people other than conventional medical practitioners? If so, how does one find out about it? And just how hard is it?

Rajiv Bajekal:

I was hoping somebody would take interest in doing it. And yes, it is open. I think it's open, it's open to physiotherapists and I'm sure it's open to osteopaths also. So, you can look at the British society of lifestyle medicine. They conduct the course here, although the original course that Nitu to, and I did was conducted by the American college of lifestyle medicine, but I think they're gradually devolving to bodies all over the world to conduct their own examinations. And we're hoping that the nutrition module and things remain the same, but you can get that information from BSLM that is society of lifestyle.

Steven Bruce:

It's an online course. I believe isn't it?

Rajiv Bajekal:

It is. Yes. But yeah, I mean, you can, you can get a book and things, but you don't have to go anywhere to do it. So, it's worth doing,

Steven Bruce:

How long does it take typically to get through the course?

Rajiv Bajekal:

I think it, it took us about four months of pretty intense studying together with our jobs, obviously. So at least two, three months intense work, I would say, okay. Was it expensive? No, not hideously. So, I think it came to overall under 800 or thousand dollars, it might have gone off a little. Okay.

Steven Bruce:

Rajiv that has been very kind of you thank you for giving up your time, miss again, too, to help us out with that. And interesting presentations too. And clearly things that we could see in our own practices and very well worth being reminded or informed about what to look for and how urgently we need to pass those on.

Rajiv Baj:

Thank you very much.

Steven Bruce:

I wish you the best of luck with getting back to your own practice as it's now apparently becoming feasible for you to operate again.

Rajiv Bajekal:

Yes, slowly. I mean, we'll, we'll have to put our dip out toes slowly in the water. Right now, the mortality rate is still considered very high in the perry Covid area so it's a, it's about 20% for somebody who has a general anaesthesia which I think is completely unacceptable. So, barring the most urgent things. I don't think you'll see much activity for the next few months.

Steven Bruce:

Well, I would say we're very grateful to COVID-19 for giving you so much time to spend with us. So, thank you for that. And I hope we'll see you again in the, not too distant future.