Funding for Yale Cancer Answers is provided by Smilow Cancer Hospital.

Welcome to Yale Cancer Answers with Doctor Anees Chagpar.

Yale Cancer Answers features the latest information on cancer care by welcoming oncologists and specialists who are on the forefront of the battle to fight cancer.

This week it’s a conversation about pancreatic cancer with Doctor Thiru Muniraj.

Doctor Muniraj is an associate professor of medicine and digestive diseases at the Yale School of Medicine, where Doctor Chagpar is a professor.
Maybe we can start off by you telling us a little bit more about yourself and what it is you do.

I’m a gastroenterologist and advanced endoscopist with a special interest and expertise in pancreas and my journey was not straightforward. I have been a physician for 25 years in different continents, kept open mind throughout and then got into the pancreas and advanced endoscopy field where I think it’s a perfect balance between good critical thinking and procedural aspects to make a good difference in someone’s life,
especially when dealing with problems like pancreatic cancer. So predominantly I do endoscopies, especially for pancreas and bile ducts. So as we’re thinking about pancreatic cancer awareness month, it’s one of those months that we know a little bit about. I think all of us have heard about pancreatic cancer. Certainly there have been a number of celebrities who have passed away of this disease, but it’s not one of the ones that’s top of mind like breast cancer or.
colon cancer or lung cancer.

So can you give us a sense of the epidemiology of pancreatic cancer? How common is it? How lethal is it? Are there different kinds, that kind of thing?

Like you already pointed out, this pancreatic cancer prevalence is going up every year. And more than that, the National Cancer Institute predicts that by 2030 pancreatic cancer will be the second leading cause of cancer death in the United States.
leading the top three with lung cancer and colon cancer.

Every year we see around 60,000 patients with pancreatic, a new diagnosis, but almost 50,000 patients die with pancreatic cancer too.

We see in several other cancers, we are making a good change in the prognosis and the cancer treatment. But unfortunately, pancreatic cancer death rates are not falling at par with other cancers we deal with.

Why is that? I mean, why is pancreatic cancer increasing?
Yeah, there are a lot of risk factors, but some of the risk factors are not straightforward, like smoking is one of the risk factors, but a modifiable risk factor, and obesity is increasing in the country. Right now there’s a prediction that by 2030, the incidence of obesity will be like 50%, and obesity also causes a higher risk to get a pancreatic cancer. But even though those risks are very minimal, there are genetic risks too.
which are not modifiable.

And the family history, if someone has breast cancer,

ovarian cancer,

that puts them at a higher risk

of getting a pancreatic cancer.

And same that if someone

has a first degree relative or a

sibling with pancreatic cancer,

they are four to five times higher

chance of getting a pancreatic

cancer than the general population.

So when we think about those risk factors,

presumably the genetics of

the population are going to remain
relatively the same over time unless there’s some predisposition for people with a particular mutation to be more proliferative in their birth rate than others. We know that the rates of smoking in general have declined. So is the reason why the pancreatic cancer rates are increasing really tied to the obesity rate or is there something else that’s driving those rates up or is that something that’s just not very clear at the moment? Yeah, I think it’s really not clear at this moment.
A lot of research goes into that, like predicting why the prevalence is going up. And also a lot of research is going into how can we diagnose these pancreatic cancer patients early enough so that we can really give a curative surgery or curative treatment so that we can minimize the cancer deaths as well. So let’s dive into the screening in the prevention part of it. So certainly in terms of primary prevention or reducing one’s risk, it sounds like
the usual things that we advise almost everybody, maintain an ideal body weight, eat right, exercise, don’t smoke, don’t drink, would apply here as well. But when we think about prevention and screening, you know, for many of the other cancers, we have screening tests, right? We have mammograms for breast cancer, colonoscopies for colon cancer. Now even have low dose CT for people who are at high risk of lung cancer. Do we have any screening tests for pancreatic cancer? That’s a really good point you’re bringing up and is like most cancers right now.
We have a good screening tool to pick these cancers early enough where we can give a curative treatment. But unfortunately for pancreatic cancer still we do not have an effective and reliable screening test, especially for someone totally asymptomatic. There is no good screening test where we can recommend in our current tools. But at the same time, if someone has a strong family history of pancreatic cancer or other cancers like breast and ovarian cancers, we have screening programs.
available which will help early diagnosis and improve outcomes.

But most of these screening tools rely on imaging such as MRI scans or sometimes we do endoscopic ultrasound which would need anesthesia and sometimes a combination we switch between MRI and endoscopic ultrasound.

For general population who are asymptomatic or do not have any family history, there is still no good screening tool to pick these cancers early enough.

And so if there is no good screening...
tools for the general population, one of the things that we often recommend is that people know the signs and symptoms so that at least you can present to your doctor and not bury your head in the sand if you have what might be otherwise considered a red flag.

So can you talk a little bit more about how pancreatic cancer presents and what might be the signs and symptoms that our listeners should be watching for?
and undiagnosed for quite a long time.

That’s the really, really scary part and sad part too.

The reason? Many times the pancreatic cancer when it presents itself, it’s too late.

Often the symptoms are so mild like abdominal discomfort or mild nausea, which could be from anything, right?

One won’t think of pancreatic cancer right away.

The only problem is if that discomfort persists and it’s not going away in few weeks, then I would suggest patients should contact their primary doctor or a gastroenterologist.
to initiate further work up.

But sometimes it’s not that easy.

I had a patient a few months ago who had back pain.

Months of back pain and first went to orthopedic surgeon before coming to me.

Sometimes pancreatic cancer presents like a back pain too.

But if someone has a jaundice that is dark urine or yellow skin pigmentation, that’s somewhat easy.

That prompts the patient to go to the doctor right away and then you get work up with either CT scan or MRI.

Occasionally pancreatic cancers can
present like a pancreatitis and that could be one of the red flags to think of pancreatic cancer like hidden pancreatic cancer causing pancreatitis. Another very peculiar thing is weight loss. Sometimes we see unrecognized weight loss. I know everyone wants to lose weight, but it’s not easy to achieve weight loss. And if you know, someone says that I lost 30 pounds in one month and haven’t been working out, unless you’re doing some major lifestyle change, it’s not that easy. I usually ask them was it easy to lose weight and if they say, yes it was very easy,
then that’s kind of red flag to dig deeper to see what is causing the weight loss. Another thing which I would point out is diabetes. There is some strange link between diabetes and pancreatic cancer. There is some research going on in this too. A new onset diabetes for someone 50 or over that should prompt thinking about a hidden pancreatic cancer. But of course I want to alert the listeners that not every diabetic patient gets pancreatic cancer. or is at risk of pancreatic cancer.
There are 30 million diabetics in the country, but there’s only 50 to 60,000 pancreatic cancers per year. But in the pancreatic cancer patients after diagnosis, if you look at them, they can lose the diabetes control. So any acute change in diabetes control or a new onset diabetes that should also prompt someone to look deeper if there’s any hidden malignancy, especially pancreatic cancer.

Yeah, I have a good friend who actually falls into that latter category who,
you know, was diabetic. But all of a sudden she found that her diabetes really wasn’t under control and it was very hard to keep her blood sugars under control as she had in the past. And lo and behold, she went and she presented to her primary care doctor and ultimately was found to have a pancreatic cancer. So can you talk a little bit now that you’ve nicely laid out kind of the landscape of what people should look for.
00:11:51.288 --> 00:11:53.074 symptoms and are concerned and you
NOTE Confidence: 0.7120253
00:11:53.074 --> 00:11:54.880 go to your primary care doctor,
NOTE Confidence: 0.7120253
00:11:54.880 --> 00:11:56.973 can you talk a little bit about
NOTE Confidence: 0.7120253
00:11:56.973 --> 00:11:59.640 what the work up is to try to
NOTE Confidence: 0.7120253
00:11:59.640 --> 00:12:01.000 find these pancreatic cancers?
NOTE Confidence: 0.7120253
00:12:01.000 --> 00:12:03.611 What can people expect and how is
NOTE Confidence: 0.7120253
00:12:03.611 --> 00:12:05.120 the diagnosis ultimately made?
NOTE Confidence: 0.41537875
00:12:06.640 --> 00:12:09.818 Yes. If someone has this kind of
NOTE Confidence: 0.41537875
00:12:09.818 --> 00:12:13.199 red flags or high risk symptoms,
NOTE Confidence: 0.41537875
00:12:13.200 --> 00:12:15.825 then the first work up of course
NOTE Confidence: 0.41537875
00:12:15.825 --> 00:12:19.218 a lab test of blood work to look
NOTE Confidence: 0.41537875
00:12:19.218 --> 00:12:21.398 for elevation in liver test.
NOTE Confidence: 0.41537875
00:12:21.400 --> 00:12:23.840 And then the most important
NOTE Confidence: 0.41537875
00:12:23.840 --> 00:12:26.633 aspect of the work up is some
NOTE Confidence: 0.41537875
00:12:26.633 --> 00:12:28.360 kind of cross-sectional scans,
NOTE Confidence: 0.41537875
00:12:28.360 --> 00:12:31.918 either CT scan or MRI scan.
Often CT or MRI will find the mass, the pancreatic cancer mass in one or two centimeters. But occasionally if it’s smaller than that, sometimes scans can miss that too. Then we rely on what is called endoscopic ultrasound, which is done by gastroenterologists like myself. Then the patient needs to go under anesthesia and the endoscope goes through the mouth and scan through the stomach wall. As listeners may know, the pancreas lies just behind the stomach.
So once you go inside the stomach and scan through the stomach wall, you can get a precise look at the pancreas and even pick up subtle masses or very small tiny masses too. Sometimes we rely on cancer biomarkers like one called California 19-9, but we often don’t use that as the first test to screen or diagnose pancreatic cancer. The reason behind is most pancreatic cancer patients may have very high numbers in California 99, but there are some blood group patients may not mount that California 99 so it could be falsely negative.
At the same time, if someone has a bile duct stone or a benign problem in the bile duct or just a pancreatitis that can also spuriously falsely show very high levels of this cancer biomarker C in 99. So for that reason we don’t rely on that a lot, especially to diagnose, but we definitely rely on CT scan or MRI scan to start with.

Fantastic. Well, we’re going to take a short break here for a medical minute, short break here for a medical minute, but please stay tuned to learn more about the care of pancreatic cancers with my guest, Doctor Thiru Muniraj.
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comes from Smilow Cancer Hospital,

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cancers is committed to detecting pancreatic

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cancer early and using state-of-the-art

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technology to treat the condition.

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The American Cancer Society

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estimates that nearly 150,000 people

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in the US will be diagnosed with

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colorectal cancer this year alone.

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When detected early,

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colorectal cancer is easily

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	treated and highly curable,

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and men and women over the age of 45

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	should have regular colonoscopies
00:15:05.070 --> 00:15:07.075 to screen for the disease.

00:15:07.080 --> 00:15:08.520 Patients with colorectal cancer have more hope than ever before, thanks to increased access to advanced therapies and specialized care.

00:15:10.680 --> 00:15:13.512 Clinical trials are currently underway at federally designated comprehensive cancer centers such as Yale Cancer Center and Smilow Cancer Hospital to test innovative new treatments for colorectal cancer.

00:15:13.512 --> 00:15:15.400 Tumor gene analysis has helped improve management of colorectal cancer by identifying the patients most likely to benefit from chemotherapy and to benefit from chemotherapy and...
newer targeted agents resulting in more patient specific treatment.

More information is available at yalecancercenter.org.

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although may be related to obesity.

We talked about the fact that for the vast majority of the general population, we really don’t have a screening test. So there are a number of things that you can look for and talk to your doctor about if you have symptoms or signs that might be concerning. Right before the break, you talked about the fact that often times the next step is cross-sectional imaging and biomarkers are not really perfect in this regard. But can you talk a little bit about how exactly we go about making that diagnosis?
I mean for many cancers, there’s actually a biopsy that takes place. Is that the same for pancreatic cancer? And if so, how is that done and what’s the next step?

That’s true and once we do a CT scan or MRI scan and if we find a mass or even if we see subtle signs which are prompting that there could be a mass, the next best test is to get a biopsy without a tissue. Then it’s pretty hard to even establish the diagnosis and for that matter to start the treatment. So the biopsies are often done.
by a gastroenterologist, advanced endoscopist who performs what is called as endoscopic ultrasound. So the endoscopic ultrasound is a type of endoscopy which is often done as an outpatient. The patient can come in and go home the same day and it’s done under anesthesia like someone has a colonoscopy under anesthesia. Most often that’s how it is done. The endoscope goes through the mouth and then we enter the stomach and then we scan through the stomach wall and find where the pancreatic mass is.
and precisely locate and identify that.

And once we identify, then we pass a very tiny thin needle through the stomach wall. That needle is often thinner than the IV needle what patients often have for IV fluids. And then once we get a good sample from that pancreatic mass and we have a facility called rapid onsite cytology. What that means is we have a luxury of having a pathologist come to the endoscopy suite and look at the sample under microscope in real time when we are still doing the procedure and we have world class endoscopy cytologists,
they will diagnose then and there often
sometimes they would take the slides
to their lab to process more and we
also do what is called a score biopsy,
getting more tissue from the pancreatic mass and that is very helpful to do further testing,
especially genetic testing on that sample
everything is done as an outpatient.
That procedure takes 30 minutes to one hour and the patients leave the endoscopy unit after half an
hour of the procedure is over.

So let’s talk a little bit more about this personalized medicine that you were mentioning. I mean, we’ve talked a lot on the show about personalized medicine. It seems to be the buzzword these days in terms of cancer treatment, especially as we discover more and more about the genetics of these cancers.

So can you talk a little bit about what kinds of therapies patients might find themselves facing after a biopsy. I mean, is this chemotherapy, is it surgery, is it radiation,
00:20:14.800 --> 00:20:16.069 is it immunotherapy?

00:20:16.069 --> 00:20:18.607 Kind of give us a landscape

00:20:18.607 --> 00:20:21.280 of what people can expect.

00:20:22.800 --> 00:20:28.155 Yeah. So surgery is the curative treatment.

00:20:28.160 --> 00:20:31.576 But unfortunately when we see a pancreatic

00:20:31.576 --> 00:20:34.560 cancer patient over 50% of the time

00:20:34.560 --> 00:20:36.960 the cancer has already metastasized.

00:20:36.960 --> 00:20:39.837 That means gone to a different organ.

00:20:41.840 --> 00:20:44.204 That’s for diagnosis and

00:20:44.204 --> 00:20:46.648 screening and picking up the subtle

00:20:46.648 --> 00:20:49.520 findings of the symptoms and the

00:20:49.520 --> 00:20:53.516 rest 50% of the patients, around 10 to 20%,

00:20:53.516 --> 00:20:56.210 they’ll be eligible for a

00:20:56.299 --> 00:20:58.199 surgery right away.

00:20:58.200 --> 00:21:00.727 But again another 30% of patients have
what is called locally advanced. That means they have to go through chemotherapy or radiation first to shrink the tumor down and then eventually go for surgery. Like you mentioned, there's personalized medicine that is directing the treatment of chemotherapy or immunotherapy towards that particular tumor. Each tumor, each body is different. We respond in a different way. And once the genetic makeup of that particular tissue, then we can direct the treatment towards that particular tissue,
that particular patient who will respond better. It’s like in a Petri dish, how you do a culture for bacteria and figure out which antibiotics acts better for that particular bacteria. Same concept applies here and recently NCI has recommended that we do that kind of molecular level genetic testing for most samples. And when you say many of these patients the cancer has already metastasized. So surgery really wouldn’t be indicated as a curative treatment.
Is that why the prognosis is so poor?

And can you talk a little bit about trends in terms of prognosis?

So first off, what kind of prognosis does pancreatic cancer carry?

And second, while we’ve seen the increase in incidence of pancreatic cancer,

are we making any dent in terms of survival for pancreatic cancer?

That’s a very important question. We spoke about why the pancreatic cancer soon is going to be the second most common cause of cancer death in the country.

The reason behind that is although a lot of progress is being made in survival,
someone who has pancreatic cancer making them live longer, still we are not able to cure completely the pancreatic cancer. So that’s the reason the cancer deaths are still not dropping down as we would like. The medical community is working a lot to put research and their minds into it. How we can change and make a meaningful dent in the prognosis of pancreatic cancer. Currently, if you want to give a cure, you want to get the tumour out. That can be done with the curative
surgery only if we find the tumour very early on when it is very tiny, which has not involved any blood vessels or travelled to the distant organs. So a lot of effort goes into picking the tumors in a very early stage, mainly to change the prognosis, change the landscape of pancreatic cancer to drop the death rate.

Can you talk a little bit more about those clinical trials that are aimed at finding these cancers early? I mean, are they really focused on people who we know are at higher
risk due to baseline genetics?

For example, having a BRCA one or two gene mutation and then trying to screen them with cross-sectional imaging or talk a little bit more about these clinical trials and what we can expect in the future?

Yeah, sure. So these clinical trials are again focused on enriched patient population because as we spoke we cannot be doing a screening test for every general population because one, if we start picking up a small raise in CN that will only increase anxiety and put patients through totally unnecessary
testing and that will only increase anxiety among general population.

So we're trying to focus on high risk patients. High risk patients means someone who has family history of pancreatic cancer or like you pointed out the BRCA mutation. One and two especially BRCA 2 has a higher risk of having a pancreatic cancer than the general population.

So once we find a high risk enriched population, like also we spoke about and diabetes. So once we find that enriched population, we have different screening programs where we alternate between MRI scan in and
US and most of these are all done on an annual basis to catch early cancer.

So is this now just on clinical trial or is this something that if we have somebody who’s listening to this show now and let’s say they do fit into one of those criteria, let’s say they have had new onset diabetes or they have been losing weight and it’s been quote easy, do they have a genetic mutation, should they be getting this scan done as part of standard of care? If if people have a genetic mutation, should they be having annual scans as part of standard of care or do
they need to find a clinical trial near them that is offering this? As of now major centers in the country including Yale, we offer clinical trials for the same question what you asked for, but it’s still not a standard of care to perform routine scans for patients who have family history of an aunt or uncle having a pancreatic cancer. So if someone has a family member having a pancreatic cancer especially first degree relative or if someone has a personal history of having a BRCA mutation. Then it’s advisable to contact your primary physician,
gastroenterologist and reach out to the nearest multi speciality centre where we have access for the clinical trial to enroll and start putting the patients into alternating between MRI and EUS and having a close follow up.

When do you anticipate having the results of those clinical trials so that the general population who’s at higher risk can avail themselves of it as standard of care rather than only on a clinical trial?

Yeah, we have a population of 350 million and the pancreatic
cancer only 50,000 or 60,000 per year.

So the goal is to find an enriched population who will be higher risk of pancreatic cancer and use a screening test to that particular population. So that if we are not driving everyone anxious and also we are picking up some meaningful early cancers where we can change patient’s life. Lot of work is still going on in this area. I’m hopeful that at least in the next few years there’ll be some standard of care which a primary care physician can use to pick this cancers early enough.

Doctor Thiru Muniraj is an associate professor of medicine and digestive
00:28:36.093 --> 00:28:38.676 diseases at the Yale School of Medicine.

00:28:38.680 --> 00:28:40.688 If you have questions,

00:28:40.688 --> 00:28:42.660 the address is canceranswers@yale.edu,

00:28:42.660 --> 00:28:45.420 and past editions of the program

00:28:45.420 --> 00:28:47.809 are available in audio and written

00:28:47.809 --> 00:28:48.746 form at yalecancercenter.org.

00:28:48.746 --> 00:28:51.194 We hope you’ll join us next week to

00:28:51.194 --> 00:28:54.920 learn more about the fight against

00:28:54.920 --> 00:28:57.524 cancer here on Connecticut Public Radio.

00:28:57.524 --> 00:29:00.000 provided by Smilow Cancer Hospital.