Welcome to Yale Cancer Answers with your host, 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 lung cancer with Doctor Anne Chiang.

Doctor Chiang is an associate professor in medical oncology at the Yale School of Medicine where Doctor Chagpar is...
a professor of surgical oncology.

Let's start at the beginning.

I think a lot of people know about lung cancer,

but this whole differentiation between small cell, non small cell

tell us a little bit more about that.

What exactly is the difference?

How many people are affected by each?

And why should we care?

I think that the basics about lung cancer are that they form in the lung.

There's mainly two different types,

small cell, that underneath the microscope the pathologist looks at the cells and

they're very small and round and blue,
00:01:11.566 –> 00:01:14.050 and everything else which is non small cell.
00:01:14.050 –> 00:01:16.000 The small cell kind is typically a little bit more aggressive.
00:01:16.000 –> 00:01:18.080 It grows more quickly.
00:01:18.080 –> 00:01:21.008 It tends to spread.
00:01:21.010 –> 00:01:23.488 There are different types that I typically tell my patients are like chocolate, vanilla and pistachio.
00:01:25.760 –> 00:01:26.858 There is adenocarcinoma, squamous cell carcinoma, and other types, and they really are simply different types that act a little bit differently.
00:01:31.250 –> 00:01:33.578 They look a little bit different underneath the microscope, and sometimes there are molecular
markers that can help us to understand a particular subtype that might be responsive to taking a pill, for example, instead of IV medication. Of all of these types the first question is which type are the most common. You say the small cells are a little bit more aggressive than the non small cells and even within that there’s a whole bunch of different types. What type is most common? What’s the distribution in terms of these cancers? The most common type is non small cell and pretty much
80-85% of lung cancer is non small cell and then 15-20% is small cell and so we know that smoking is related to lung cancer, but are there specific risk factors for getting each of these different types, or is it kind of all just a mishmash and which type you get is luck of the draw? Smoking is definitely a risk factor for both non small cell and small cell. That being said, there are folks who are never smokers, a small population who may develop mutations in specific genes called EGFR or ALK ROS1.
Some of these mutations are called oncogenes and these mutations tend to lead to lung cancer. A specific kind and because it's not sort of the same as the lung cancer that comes from smoking where repeated exposure and inflammation to carcinogens caused lung cancer, those patients with, for example, a mutation in EGFR can actually be treated with a targeted therapy that targets EGFR, with that, as I said before, is often in the shape of a pill that you can take daily. So it’s really important when you’re diagnosed with lung cancer.
to understand the pathology and specifically the molecular pathology. That means the kinds of mutations that might be available. Especially if you’ve never smoked, or if you have a very light history or remote history of smoking. For the people who have never smoked or have a very light history of smoking, are they more likely to get one type of lung cancer in terms of small cell versus non small cell than others? And these mutations that you’re talking about, are they more common in small
NOTE Confidence: 0.89279914
00:04:44.498 –> 00:04:47.009 cell or non small cell or does it
NOTE Confidence: 0.98069865
00:04:47.010 –> 00:04:48.750 make a difference at all?
NOTE Confidence: 0.98069865
00:04:48.750 –> 00:04:50.856 So these mutations that I spoke
NOTE Confidence: 0.98069865
00:04:50.856 –> 00:04:53.324 of are more common in non small
NOTE Confidence: 0.98069865
00:04:53.324 –> 00:04:55.634 cell and those folks who are light
NOTE Confidence: 0.98069865
00:04:55.707 –> 00:04:57.813 or never smokers are more likely
NOTE Confidence: 0.98069865
00:04:57.813 –> 00:05:00.522 to develop non small cell lung
NOTE Confidence: 0.98069865
00:05:00.522 –> 00:05:03.126 cancer than small cell lung cancer.
NOTE Confidence: 0.98069865
00:05:03.130 –> 00:05:05.506 Typically it has rarely happened
NOTE Confidence: 0.98069865
00:05:05.506 –> 00:05:07.906 that I’ve seen patients who never
NOTE Confidence: 0.98069865
00:05:07.906 –> 00:05:10.144 smoked develop small cell cancer,
NOTE Confidence: 0.98069865
00:05:10.150 –> 00:05:12.490 but typically there is a history
NOTE Confidence: 0.98069865
00:05:12.490 –> 00:05:13.660 of smoking.
NOTE Confidence: 0.9868976
00:05:13.660 –> 00:05:15.220 You mentioned earlier that
NOTE Confidence: 0.9868976
00:05:15.220 –> 00:05:17.170 small cell were more aggressive.
NOTE Confidence: 0.9868976
Tell us about the prognosis.

So it sounds to me like if you’re going to have a choice you would prefer to have a non small cell lung cancer.

But how bad is one versus the other? I think that the key thing to know for both is that there have really been a lot of advances such that we’ve actually seen improvements in the outcomes for both non small and small cell.

And this was just published last year in the New England Journal of Medicine that the incidence of both these and the outcomes of both these types of cancers are improving.
So I think that’s a really important message to know. The other aspect of how you’re going to do with this particular cancer has to do with staging, and that just means the geography of where the cancer is in your body when you’re diagnosed with it. If you have tumors that are just in the lung or have migrated into very nearby lymph nodes, then you maybe have a stage one cancer, or stage two cancer. You may be eligible for a local treatment like surgery or radiation.
in combination with chemotherapy to really try to remove that tumor, and that’s when you have the best prognosis, regardless if it’s non small cell or small cell. Overall, folks with non small cell do little bit better. But again, having lung cancer, it’s definitely a treatable disease. If you have stage four cancer, which means that you’ve had disease that has traveled outside of the lung to a different organ such as the liver or the brain or your bones, then we take a different approach,
which is then we need to use systemic therapy.

That means something that gets into your bloodstream because every single cancer cell anywhere needs to have a blood supply and therefore administering chemotherapy, or more recently, all these advances in immunotherapy through the blood into the bloodstream, that way those therapeutic drugs can reach all of the cancer cells that are in your body, wherever they may be.

Well, it’s certainly good news that lung cancer,
which is something that I think a lot of people fear, is becoming a treatable disease and that there are all of these advances and I want to get into that. But first something that you said really struck a chord with me and has been the case with a lot of cancers and that is the earlier you find it, the lower the stage, the more treatable it is. So if you have a stage one lung cancer that’s more treatable than a stage four lung cancer, and I was wondering if you could talk a little bit about advances that have
been made in terms of screening that have helped us to find these lung cancers earlier?

Screening is a hot topic now because the US Preventive Services Task Force just issued a different recommendation or it altered their recommendation on screening for lung cancer. So previously, if you were aged 55 or older, or if you had a 30 pack year history of smoking and that means smoking one pack per day for roughly 30 years, then you would be eligible for a low dose CT scan because you had a higher risk of lung cancer and being able to have a screening CT
NOTE Confidence: 0.98480475
00:09:18.750 –> 00:09:21.446 scan allows us to pick up
NOTE Confidence: 0.98480475
00:09:21.446 –> 00:09:23.892 things when they’re very small and
NOTE Confidence: 0.98480475
00:09:23.892 –> 00:09:26.911 you don’t have any symptoms and often
NOTE Confidence: 0.98480475
00:09:26.911 –> 00:09:29.704 help us to detect lung cancers when
NOTE Confidence: 0.98480475
00:09:29.704 –> 00:09:32.470 they are in a very early stage.
NOTE Confidence: 0.98480475
00:09:32.470 –> 00:09:34.430 So recently in March
00:09:36.000 –> 00:09:38.130 the US Preventive Services Task
NOTE Confidence: 0.98480475
00:09:38.130 –> 00:09:39.840 Force changed that recommendation
NOTE Confidence: 0.98480475
00:09:39.840 –> 00:09:43.256 to drop the age to 50 and for
NOTE Confidence: 0.98480475
00:09:43.256 –> 00:09:45.678 the pack year history to 20.
NOTE Confidence: 0.98480475
00:09:45.680 –> 00:09:49.008 So the idea being, let’s expand the
NOTE Confidence: 0.98480475
00:09:49.008 –> 00:09:52.406 population of people that are being screened.
00:09:53.553 –> 00:09:56.220 I think that our insurers
NOTE Confidence: 0.98480475
00:09:56.305 –> 00:10:00.218 are catching up with that but
NOTE Confidence: 0.98480475
00:10:00.218 –> 00:10:01.895 the recommendations
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00:10:01.985 –> 00:10:04.708 have changed and I think that that’s
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going to be very positive in terms of again being able to detect lung cancers in earlier stages where they might be able to undergo local therapy such as surgery or focused radiation.

So important for people to get screened because there are so many advances in terms of treatment. Just one clarifying question though, and the other thing that a lot of people have now done, especially because we’ve seen advances in things like smoking cessation is to quit smoking.

So let’s suppose that you have a 20-25 pack year history of smoking,
but you just quit.
You made it a New Year’s resolution and you quit maybe a year ago,
maybe six months ago.
Are you still eligible for screening?
Should you still be screened even though now you’re officially a non smoker or a former smoker?
Yes, if you have a history of smoking that’s 25 pack years, even if it was ten years ago,
you can still be eligible for this screening.
I think it’s a really important message to folks that...
wherever you are in your course of stopping smoking and it’s certainly one of the hardest things to do, it’s always important to realize that stopping or quitting smoking is going to help you and help your lungs. It’s going to help your overall health and you’re going to do better than if you continue to smoke. There is data that even for folks who have smoked a lot over the course and maybe even 2 packs per day. We certainly had in our society a number of years where everybody smoked and that was really sort of run of the mill,
so I think that it’s really important that wherever you are, if you’re a one pack a day smoker, 2 pack a day or you smoke a couple of cigarettes a week, I think that stopping smoking can really help you and we do have a smoking cessation clinic here at Yale that’s incredibly successful. There have been so many advances that I can’t even keep track. It was just the patch and the lozenge. And now there’s so many different options to help people stop and being able to do some of this through Televisit consultation.
either through video or phone, can allow people to access this kind of help and support to really improve their health, It is important to quit smoking and talk to your doctor or call a quit line to get the help you need. We’re going to take a short break for a medical minute. Please stay tuned to learn more about small cell lung cancer with my guest Doctor Anne Chiang. Funding for Yale Cancer Answers comes from AstraZeneca, working to eliminate cancer as a cause of death. Learn more at astrazeneca-us.com. It’s estimated that over 240,000
Men in the US will be diagnosed with prostate cancer this year, with over 3000 new cases being identified here in Connecticut. One in eight American men will develop prostate cancer in the course of his lifetime. Major advances in the detection and treatment of prostate cancer have dramatically decreased the number of men who die from the disease. Screening can be performed quickly and easily in a physician’s office using two simple tests: a physical exam and a blood test.
Clinical trials are currently underway at federally designated Comprehensive cancer centers such as Yale Cancer Center and Smilow Cancer Hospital, where doctors are also using the Artemis machine, which enables targeted biopsies to be performed. More information is available at yalecancercenter.org. You’re listening to Connecticut Public Radio. Welcome back to Yale Cancer Answers. This is doctor Anees Chagpar and I’m joined tonight by my guest Doctor Anne Chiang. We’re discussing recent treatment
00:14:35.072 –> 00:14:37.490 advances in small cell lung cancer

00:14:37.554 –> 00:14:39.626 and right before the break you

00:14:39.626 –> 00:14:42.004 were telling us about the fact that

00:14:42.004 –> 00:14:43.784 there have been really exciting

00:14:43.784 –> 00:14:46.348 advances both in small cell as well

00:14:46.348 –> 00:14:49.408 as in non small cell lung cancer

00:14:49.410 –> 00:14:51.150 that have really affected outcomes

00:14:51.150 –> 00:14:52.890 for patients with these diseases.

00:14:52.890 –> 00:14:55.548 So tell us more about some

00:14:55.548 –> 00:14:57.320 of these exciting advances.

00:14:58.110 –> 00:15:00.480 I’d love to. This is a really exciting

00:15:00.480 –> 00:15:02.060 time for lung cancer.

00:15:05.615 I remember back to when I started at Yale,

00:15:07.990 which was almost 10 years ago,

00:15:11.772 and I put my first patient or one of my first

00:15:15.097 patients on a clinical trial and at that time
the standard of care was chemotherapy, and in this case we were looking at treating this patient with immunotherapy and not doing chemotherapy first. And he did extremely well. And in fact, I saw him a couple of weeks ago and he has been off trial with no treatment for the past eight years and he is contemplating retirement and he's doing just incredibly well. And that still sends shivers down my spine and I know that it's not every single patient that has that kind of result. But I think the more that we can learn through studying and through biology, through clinical trials,
Our aim is really to do the best for our patients and push that edge as far as it can go in terms of how they do.

One of the trials that I’m a national investigator on spearheading is a trial called Insigna and it’s run through our cooperative groups, that’s groups that help to do research, clinical research in the communities. This trial is open at about 850 different centers, we’re looking for 850 patients to enroll on this trial and we’re trying to understand for PD L1 positive or for
patients who have this marker of PDL one if they are treated with either immunotherapy upfront or immunotherapy combined with chemotherapy, which group will do better and then with those patients who are treated with immunotherapy alone if they progress, can we then add chemo to the immunotherapy to sort of boost the immune system? And at the same time we’re going to be using the tissue and the science that we can gather to try to understand if there are biomarkers or signatures that can help us understand which people will benefit and which
people have less of a benefit.

that’s a really exciting trial that is ongoing,

we’re about 40% of the way through on that,

and I think that you know there are

thousands of

immunotherapy trials in cancer right now,

but I think this is one that

will really help us to understand

what’s the right thing to do

up front.

We talk on this show

all the time about immunotherapy.

And it sounds like particularly

giving your anecdotal case with your

patient who’s now nine years out,

it sounds like immunotherapy
NOTE Confidence: 0.9819967
00:18:52.072 –> 00:18:54.819 really does have a role or a
NOTE Confidence: 0.9819967
00:18:54.819 –> 00:18:56.679 potential role in lung cancer.
NOTE Confidence: 0.9819967
00:18:56.680 –> 00:18:57.751 With your trial,
NOTE Confidence: 0.9819967
00:18:57.751 –> 00:19:01.290 is it open to non small cell lung cancer,
NOTE Confidence: 0.9819967
00:19:01.290 –> 00:19:04.354 small cell lung cancer, or any lung cancer?
NOTE Confidence: 0.953572
00:19:05.200 –> 00:19:08.737 So that trial is open for non small cell
NOTE Confidence: 0.953572
00:19:08.737 –> 00:19:12.643 lung cancer and it’s for patients who have
NOTE Confidence: 0.953572
00:19:12.643 –> 00:19:16.252 stage four disease and who have a tumor
NOTE Confidence: 0.953572
00:19:16.252 –> 00:19:19.687 that has a positive marker for PDL 1,
NOTE Confidence: 0.953572
00:19:19.687 –> 00:19:22.441 which is an important molecule
NOTE Confidence: 0.953572
00:19:22.441 –> 00:19:26.130 in the signaling for immunotherapy
NOTE Confidence: 0.953572
00:19:26.130 –> 00:19:29.567 in terms of small cell lung cancer,
NOTE Confidence: 0.953572
00:19:29.570 –> 00:19:32.216 we have a number of clinical
NOTE Confidence: 0.953572
00:19:32.216 –> 00:19:34.970 trials also that are available,
NOTE Confidence: 0.953572
00:19:34.970 –> 00:19:39.425 and I think that the story for
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small cell is that chemo plus immunotherapy has been approved in the past couple of years. That’s how the landscape of small cell has changed. It was just previously treated with chemotherapy and just in the past couple of years we now treat with chemo, plus immunotherapy. And then the question is what happens after? If that doesn’t work anymore? And I think we have a number of different clinical trials that are available for that, and we’re trying to really understand the biology behind
why people respond or why they don’t respond and in small cell it’s typically a tumor where there’s less tissue available to test, and so we’ve put together a really great team here for studying the science that includes PhD scientists working on lung cancer as well as myself. And, you know, I think it would be too hard to go into all of the details here, but I think we’re going to learn a lot about how we can explore the biology of small cell in order to find out vulnerabilities in.
order to target this disease.

It sounds like you know, across the board in lung cancer, whether you’ve got small cell or whether you’ve got non small cell.

It sounds like immunotherapy is increasingly becoming part of the arsenal that your doctor may use to treat your disease.

And that really has made a difference now, and is that the case only for people who express PDL one?

We’ve talked on this show before about checkpoint inhibitors like PDL one. So is it the case that people who present with metastatic lung cancer, stage four, that they should be having
their tumors checked for that marker
and then treated with immunotherapy
or is immunotherapy something that
your doctor may use regardless?
For non small cell lung cancer you
definitely need to have your tumor checked.
If you have high levels of PDL
one so greater than 50% then you
may be eligible to be treated
with just immunotherapy alone.
Otherwise you really need to be
treated with a combination of chemo
and immunotherapy. For small cell, it is different.
There’s very little PDL one
expression to start with and
for the trials that have been done,
they’ve looked at all comers
so it doesn’t matter if you have PDL one
so it’s so low anyway,
but all of the small cell patients
that are diagnosed are treated
with chemo plus immuno.
It is interesting how that kind
of plays out between the
two disease types.
So tell us a little bit more about other
disease types.
So tell us a little bit more about other
advances that have occurred?
Before the break you were telling us
about an alphabet soup of markers,
things like EGFR and others.
ALK, for example.
How have these really changed the landscape?
Are oncologists using them to kind of target their therapies to personalize things as it were?

Great question. So as I was talking about before the break, if you for example have an EGFR mutation which EGFR stands for epidermal growth factor receptor, I think that the key is that what we found over the years is that if you have a mutation in that you really respond to taking that EGFR directed therapy. In this case, it’s a drug called osimertinib and you should do that off the bat.
if you have stage four disease.

If you have stage one disease or stage two disease or you've had or stage three that you've had surgery, there has been a very new advance in the past year and it was led by Doctor Roy Herbst of Yale, our team that basically says that after you have that surgery, you benefit from taking that oral therapy.

And I think it’s important also to mention that these trials, such as the ADURO trial, were offered not only in
our main academic campus, in New Haven, but also in all of our Smilow care centers across the state. And we have 15 of them, so we’ve been able to allow patients who are in all parts of the state participate in these types of clinical trials that can really give access to cutting edge drugs or to help to advance science for all patients. And that’s the case across the country, that many of these large trials are offered at
academic centers that are offered at community centers and that really people should talk to their doctor because trials, whether they were led by Yale or led by investigators at other centers are often available for patients across the nation. Isn’t that right? Absolutely, and I think that you know, in the past clinical trials you thought, Gee, I will try a clinical trial if everything else has failed and it’s not working for me, so I’m going to try something experimental. Now that paradigm is completely shifted,
so it may be that you have your first treatment that you’re going on a clinical trial. And it really is to try and better the outcomes for each of the recommended treatments that are recommended approaches, standard approaches so that we can push the envelope and really do the best for our patients. And in terms of these targeted therapies, whether it’s a drug that’s targeting an EGFR, whether it’s a drug targeting ALK or whatever, this is across the board.
cell and non small cell?

And so the question that I have is if that is the case then for everyone who has lung cancer it sounds like they should have their tumor profiled with regards to all of these mutations so that their doctor can better inform what might be the therapy that works best for them. Is that right?

So the the mutations that I talked about EGFR and so forth are really much more common in non small cells.

So we do as a matter of fact test all of our non small cell samples.
and look for these mutations. For small cell it’s a little bit different. We don’t have typically mutations in EGFR or ALK, specifically for small cell. However, because we still think that it’s important to test for those and typically not up front, in other words, when you’re first diagnosed, but if you are treated with chemo and immunotherapy, and perhaps it typically works very well in 80 to 90% of the cases you have a very good response but that disease may come back when
you have stage four disease, it’s typically not something that you’re going to cure because you don’t have the option of cutting out or radiating every microscopic cell. So if the disease regrows, if and when, unfortunately, we want to have options and really develop more tools is what I tell my patients to be able to manage their disease, and that’s why we do work so much with clinical
00:28:22.872 → 00:28:25.442 trials and feel that that’s
NOTE Confidence: 0.9292635
00:28:25.442 → 00:28:27.787 incredibly important to be able to
NOTE Confidence: 0.9292635
00:28:27.787 → 00:28:29.837 advance outcomes for our patients.
NOTE Confidence: 0.9292635
00:28:29.840 → 00:28:30.570 Doctor Ann Chiang
NOTE Confidence: 0.93609256
00:28:30.570 → 00:28:33.083 is an associate professor and medical
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00:28:33.083 → 00:28:35.687 oncologist at the Yale School of Medicine.
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00:28:35.690 → 00:28:37.274 If you have questions,
NOTE Confidence: 0.93609256
00:28:37.274 → 00:28:39.254 the address is cancer answers at
NOTE Confidence: 0.93609256
00:28:39.254 → 00:28:41.440 yale.edu and past editions of the
NOTE Confidence: 0.93609256
00:28:41.440 → 00:28:43.574 program are available in audio and
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00:28:43.574 → 00:28:45.940 written form at yalecancercenter.org.
NOTE Confidence: 0.93609256
00:28:45.940 → 00:28:48.883 We hope you’ll join us next week to learn
NOTE Confidence: 0.93609256
00:28:48.883 → 00:28:51.500 more about the fight against cancer.
NOTE Confidence: 0.93609256
00:28:51.500 → 00:28:53.480 Here on Connecticut public radio.
NOTE Confidence: 0.93609256
00:28:53.480 → 00:28:55.750 Funding for Yale Cancer Answers
NOTE Confidence: 0.93609256
00:28:55.750 → 00:28:58.020 is provided by Smilow Cancer
00:28:58.102 –> 00:29:00.070 Hospital and AstraZeneca.