WEBVTT

00:00:00.000 --> 00:00:03.180 Funding for Yale Cancer Answers is

NOTE Confidence: 0.9372886

00:00:03.180 --> 00:00:06.200 provided by Smilow Cancer Hospital.

NOTE Confidence: 0.9372886

00:00:06.200 --> 00:00:08.375 Welcome to Yale Cancer Answers

NOTE Confidence: 0.9372886

00:00:08.375 --> 00:00:10.115 with Doctor Anees Chagpar.

NOTE Confidence: 0.9372886

00:00:10.120 --> 00:00:11.925 Yale Cancer Answers features the

NOTE Confidence: 0.9372886

00:00:11.925 --> 00:00:13.369 latest information on cancer

NOTE Confidence: 0.9372886

00:00:13.369 --> 00:00:15.207 care by welcoming oncologists and

NOTE Confidence: 0.9372886

00:00:15.207 --> 00:00:17.337 specialists who are on the forefront

NOTE Confidence: 0.9372886

00:00:17.398 --> 00:00:19.036 of the battle to fight cancer.

NOTE Confidence: 0.9372886

00:00:19.040 --> 00:00:20.954 This week it's a conversation about

NOTE Confidence: 0.9372886

00:00:20.954 --> 00:00:23.109 the care of patients with myeloid

NOTE Confidence: 0.9372886

00:00:23.109 --> 00:00:25.144 disorders with Doctor Lourdes Mendez.

NOTE Confidence: 0.9372886

00:00:25.150 --> 00:00:27.262 Dr. Mendez is an assistant professor

NOTE Confidence: 0.9372886

00:00:27.262 --> 00:00:29.312 of medicine and hematology at the

NOTE Confidence: 0.9372886

00:00:29.312 --> 00:00:31.198 Yale School of Medicine, where Dr.

NOTE Confidence: 0.9372886

00:00:31.198 --> 00:00:33.746 Chagpar is a professor of surgical oncology.

NOTE Confidence: 0.9159893

00:00:35.310 --> 00:00:37.334 Dr. Mendez, maybe we can start off

NOTE Confidence: 0.9159893

00:00:37.334 --> 00:00:39.664 by you telling us a little bit more

NOTE Confidence: 0.9159893

00:00:39.664 --> 00:00:41.628 about yourself and what it is you do.

NOTE Confidence: 0.9159893

00:00:42.510 --> 00:00:47.667 So I'm a hematologist and in the last years

NOTE Confidence: 0.9159893

00:00:47.670 --> 00:00:50.673 the patients we care for has expanded

NOTE Confidence: 0.9159893

00:00:50.673 --> 00:00:52.954 to include individuals who have

NOTE Confidence: 0.9159893

00:00:52.954 --> 00:00:55.730 something we're calling pre disease

NOTE Confidence: 0.9159893

00:00:55.730 --> 00:00:58.530 and also clonal hematopoiesis.

NOTE Confidence: 0.9159893

00:00:58.530 --> 00:01:02.010 So our team includes my physician

NOTE Confidence: 0.9159893

00:01:02.010 --> 00:01:04.330 colleagues who are hematologists,

NOTE Confidence: 0.9159893

00:01:04.330 --> 00:01:09.130 also very dedicated Aprn's and nurses,

NOTE Confidence: 0.9159893

00:01:09.130 --> 00:01:11.938 as well as an incredibly talented

NOTE Confidence: 0.9159893

00:01:11.938 --> 00:01:13.810 and dedicated research team.

NOTE Confidence: 0.9159893

00:01:13.810 --> 00:01:15.970 And we provide approved treatments,

NOTE Confidence: 0.9159893

00:01:15.970 --> 00:01:19.135 but we're also very much involved in

NOTE Confidence: 0.9159893

00:01:19.135 --> 00:01:21.235 clinical trials and investigations

NOTE Confidence: 0.9159893

00:01:21.235 --> 00:01:24.870 as well as in trying to make

NOTE Confidence: 0.9159893

00:01:24.870 --> 00:01:27.445 new discoveries in the lab,

NOTE Confidence: 0.9159893

00:01:27.450 --> 00:01:29.823 both the wet lab as it's called

NOTE Confidence: 0.9159893

00:01:29.823 --> 00:01:31.250 and in the dry lab.

NOTE Confidence: 0.9159893

00:01:31.250 --> 00:01:34.522 So we work together to care for

NOTE Confidence: 0.9159893

00:01:34.522 --> 00:01:36.106 existing patients and try and

NOTE Confidence: 0.9159893

00:01:36.106 --> 00:01:37.728 move the needle in our field.

NOTE Confidence: 0.9282241

00:01:39.290 --> 00:01:41.460 So let's get through a bit of

NOTE Confidence: 0.9282241

00:01:41.460 --> 00:01:43.316 the vocabulary so you can help

NOTE Confidence: 0.9282241

00:01:43.316 --> 00:01:45.304 to define some of the terms and

NOTE Confidence: 0.9282241

00:01:45.374 --> 00:01:47.486 the kinds of patients you treat.

NOTE Confidence: 0.9282241

00:01:47.490 --> 00:01:50.794 For example,

NOTE Confidence: 0.9282241

00:01:50.794 --> 00:01:52.210 what are myeloid disorders?

NOTE Confidence: 0.9351339

00:01:53.130 --> 00:01:56.946 So if we take one further step back and

NOTE Confidence: 0.9351339

00:01:56.946 --> 00:02:00.294 we talk about the blood and the different

NOTE Confidence: 0.9351339

00:02:00.294 --> 00:02:02.570 cell types in that are in the blood,

NOTE Confidence: 0.9351339

00:02:02.570 --> 00:02:04.410 there are three main types.

NOTE Confidence: 0.9351339

00:02:04.410 --> 00:02:05.810 There are white blood cells,

NOTE Confidence: 0.9351339

00:02:05.810 --> 00:02:07.210 there are red blood cells,

NOTE Confidence: 0.9351339

00:02:07.210 --> 00:02:09.450 and there are platelets.

NOTE Confidence: 0.9351339

00:02:09.450 --> 00:02:14.240 And the white blood cell family further

NOTE Confidence: 0.9351339

00:02:14.240 --> 00:02:18.020 can be subdivided into myeloid cells

NOTE Confidence: 0.9351339

00:02:18.020 --> 00:02:21.698 and lymphoid cells as two subcategories.

NOTE Confidence: 0.9351339

00:02:21.700 --> 00:02:24.580 And the myeloid cells,

NOTE Confidence: 0.9351339

00:02:24.580 --> 00:02:27.394 I call them first responders because

NOTE Confidence: 0.9351339

00:02:27.394 --> 00:02:31.305 their role is to come to the site of

NOTE Confidence: 0.9351339

00:02:31.305 --> 00:02:35.520 infection or the site of an injury as

NOTE Confidence: 0.9351339

00:02:35.520 --> 00:02:39.424 the first representation of the immune

NOTE Confidence: 0.9351339

00:02:39.424 --> 00:02:43.276 response to that kind of insult.

NOTE Confidence: 0.9351339

00:02:43.276 --> 00:02:48.544 And so these cells can become abnormal and

NOTE Confidence: 0.9351339

00:02:48.544 --> 00:02:50.908 if the abnormality is profound enough,

NOTE Confidence: 0.9351339

00:02:50.910 --> 00:02:52.590 they become cancerous.

NOTE Confidence: 0.9351339

00:02:52.590 --> 00:02:57.002 And so then we refer to them or

NOTE Confidence: 0.9351339

00:02:57.002 --> 00:02:59.462 these these conditions as myeloid

NOTE Confidence: 0.9351339

00:02:59.462 --> 00:03:01.430 diseases or myeloid neoplasms,

NOTE Confidence: 0.9351339

00:03:01.430 --> 00:03:04.270 they're basically myeloid cancers.

NOTE Confidence: 0.9310512

00:03:05.360 --> 00:03:07.112 And then you mentioned a couple

NOTE Confidence: 0.9310512

00:03:07.112 --> 00:03:08.743 of other phenomena that you've

NOTE Confidence: 0.9310512

00:03:08.743 --> 00:03:10.359 started treating more recently.

NOTE Confidence: 0.9310512

00:03:10.360 --> 00:03:11.680 Can you tell us a little

NOTE Confidence: 0.9310512

00:03:11.680 --> 00:03:12.560 bit more about those?

NOTE Confidence: 0.9310512

00:03:14.296 --> 00:03:17.240 Yes, and I think I should just briefly mention

NOTE Confidence: 0.9310512

00:03:17.240 --> 00:03:20.817 about leukemia before I go into the

NOTE Confidence: 0.9310512

00:03:20.817 --> 00:03:24.000 more recent predisease category.

NOTE Confidence: 0.9310512

00:03:24.000 --> 00:03:30.100 So leukemia refers to a growth of

NOTE Confidence: 0.9310512

00:03:30.100 --> 00:03:32.813 abnormal cells in the blood and

NOTE Confidence: 0.9310512

00:03:32.813 --> 00:03:35.704 it can be further divided as acute

NOTE Confidence: 0.9310512

00:03:35.704 --> 00:03:38.238 leukemia and as chronic leukemia.

NOTE Confidence: 0.9310512

00:03:38.240 --> 00:03:42.392 So acute leukemia is termed that

NOTE Confidence: 0.9310512

00:03:42.392 --> 00:03:46.176 way because it needs really rapid

NOTE Confidence: 0.9310512

00:03:46.176 --> 00:03:49.050 attention because it refers to really

NOTE Confidence: 0.9310512

00:03:49.050 --> 00:03:51.700 uncontrolled production of cancer cells

NOTE Confidence: 0.9310512

00:03:51.700 --> 00:03:55.411 in the bone marrow and then they

NOTE Confidence: 0.9310512

00:03:55.411 --> 00:03:58.240 can also spill over into the blood.

NOTE Confidence: 0.9310512

00:03:58.240 --> 00:04:02.440 Chronic leukemias are on the other end of

NOTE Confidence: 0.9310512

00:04:02.440 --> 00:04:05.758 the spectrum and the term we use is indolent,

NOTE Confidence: 0.9310512

00:04:05.760 --> 00:04:08.208 which refers to the fact that

NOTE Confidence: 0.9310512

00:04:08.208 --> 00:04:12.240 they are kind of a slow process,

NOTE Confidence: 0.9310512

00:04:12.240 --> 00:04:15.686 something that usually we address

NOTE Confidence: 0.9310512

00:04:15.686 --> 00:04:18.301 over months and maybe sometimes

NOTE Confidence: 0.9310512

00:04:18.301 --> 00:04:21.560 even years or can just observe.

NOTE Confidence: 0.9310512

00:04:21.560 --> 00:04:26.186 And myeloid diseases can be chronic

NOTE Confidence: 0.9310512

00:04:26.186 --> 00:04:29.302 myeloid neoplasms or chronic myeloid

NOTE Confidence: 0.9310512

00:04:29.302 --> 00:04:32.970 leukemias or there is acute myeloid leukemia.

NOTE Confidence: 0.9310512

00:04:32.970 --> 00:04:36.462 Our group actually also cares for

NOTE Confidence: 0.9310512

00:04:36.462 --> 00:04:38.116 acute lymphoblastic leukemia,

NOTE Confidence: 0.9310512

00:04:38.116 --> 00:04:41.314 which is that other subfamily of

NOTE Confidence: 0.9310512

00:04:41.314 --> 00:04:45.154 white blood cells that I was talking

NOTE Confidence: 0.9310512

00:04:45.154 --> 00:04:48.130 about within the white blood cells

NOTE Confidence: 0.9310512

00:04:48.130 --> 00:04:50.832 and the as distinct from the first

NOTE Confidence: 0.9310512

00:04:50.832 --> 00:04:53.328 responders which are the myeloid cells,

NOTE Confidence: 0.9310512

00:04:53.330 --> 00:04:54.650 the lymphoid cells,

NOTE Confidence: 0.9310512

00:04:54.650 --> 00:04:57.730 we call them the smart cells because

NOTE Confidence: 0.9310512

00:04:57.814 --> 00:05:00.926 they learn and they adapt specifically

NOTE Confidence: 0.9310512

00:05:00.926 --> 00:05:04.831 to infections and potentially also

NOTE Confidence: 0.9310512

00:05:04.831 --> 00:05:08.053 to abnormal cells like cancer cells.

NOTE Confidence: 0.9310512

00:05:08.060 --> 00:05:11.708 So that brings us to a different

NOTE Confidence: 0.9310512

00:05:11.708 --> 00:05:14.972 condition that's more recently been

NOTE Confidence: 0.9310512

00:05:14.972 --> 00:05:18.627 recognized that I called predisease

NOTE Confidence: 0.9310512

00:05:18.627 --> 00:05:20.820 and clonal hematopoiesis.

NOTE Confidence: 0.9310512

00:05:20.820 --> 00:05:24.444 And really this is a new entity that

NOTE Confidence: 0.9310512

00:05:24.444 --> 00:05:27.731 was only recently codified meaning

NOTE Confidence: 0.9310512

00:05:27.731 --> 00:05:30.536 made part of our classification

NOTE Confidence: 0.9310512

00:05:30.536 --> 00:05:33.770 systems formally in the last year.

NOTE Confidence: 0.9310512

00:05:33.770 --> 00:05:37.688 And it reflects our fields recognition

NOTE Confidence: 0.9310512

00:05:37.688 --> 00:05:42.082 that there is a condition that precedes

NOTE Confidence: 0.9310512

00:05:42.082 --> 00:05:45.730 myeloid neoplasms but also other blood

NOTE Confidence: 0.9310512

00:05:45.825 --> 00:05:49.149 cancers called clonal hematopoiesis.

NOTE Confidence: 0.9310512

00:05:49.150 --> 00:05:52.783 And it bears some of the genetic

NOTE Confidence: 0.9310512

00:05:52.783 --> 00:05:56.406 fingerprint of the full blown blood cancer.

NOTE Confidence: 0.9310512

00:05:56.406 --> 00:05:58.746 But it's at the very,

NOTE Confidence: 0.9310512

00:05:58.750 --> 00:06:00.736 very early stages.

NOTE Confidence: 0.9310512

00:06:00.736 --> 00:06:04.389 It's the first hint in some ways

NOTE Confidence: 0.9310512

00:06:04.389 --> 00:06:06.720 of an abnormal cell and in the

NOTE Confidence: 0.9310512

00:06:06.800 --> 00:06:09.125 overwhelming majority of people it

NOTE Confidence: 0.9310512

00:06:09.125 --> 00:06:12.070 will never become a blood cancer.

NOTE Confidence: 0.9310512

00:06:12.070 --> 00:06:14.509 But we do know that taken as a whole,

NOTE Confidence: 0.9310512

00:06:14.510 --> 00:06:17.492 there's about an 11 fold increased

NOTE Confidence: 0.9310512

00:06:17.492 --> 00:06:20.990 risk of developing a blood cancer if

NOTE Confidence: 0.9310512

00:06:20.990 --> 00:06:24.590 there is this predisease condition

NOTE Confidence: 0.9310512

00:06:24.590 --> 00:06:26.750 called clonal hematopoiesis.

NOTE Confidence: 0.9310512

00:06:26.750 --> 00:06:29.242 The rate of developing a blood cancer

NOTE Confidence: 0.9310512

00:06:29.242 --> 00:06:32.430 is very low, less than 1% a year,

NOTE Confidence: 0.9310512

00:06:32.430 --> 00:06:34.450 well below that actually.

NOTE Confidence: 0.9310512

00:06:34.450 --> 00:06:38.730 And so the challenge in the field

NOTE Confidence: 0.9310512

00:06:38.730 --> 00:06:41.618 is to identify those individuals

NOTE Confidence: 0.9310512

00:06:41.618 --> 00:06:45.886 that are at high risk of developing

NOTE Confidence: 0.9310512

00:06:45.886 --> 00:06:49.774 a blood cancer down the line.

NOTE Confidence: 0.9310512

00:06:49.780 --> 00:06:53.434 And we are learning about what

NOTE Confidence: 0.9310512

00:06:53.434 --> 00:06:57.500 distinguishes people who have that high risk,

NOTE Confidence: 0.9310512

00:06:57.500 --> 00:07:01.724 but we're very much still in the midst

NOTE Confidence: 0.9310512

00:07:01.724 --> 00:07:05.000 of defining who they are and what

NOTE Confidence: 0.9310512

00:07:05.000 --> 00:07:08.424 the risk factors for progression are.

NOTE Confidence: 0.9310512

00:07:08.424 --> 00:07:14.178 We also know that this predisease condition

NOTE Confidence: 0.9310512

00:07:14.180 --> 00:07:20.298 increases the risk of dying of mortality.

NOTE Confidence: 0.9310512

00:07:20.300 --> 00:07:23.516 And surprisingly when this

NOTE Confidence: 0.9310512

00:07:23.516 --> 00:07:27.536 entity was first being described,

NOTE Confidence: 0.9310512

00:07:27.540 --> 00:07:29.871 it was found that it seems to

NOTE Confidence: 0.9310512

00:07:29.871 --> 00:07:32.820 be due to cardiovascular disease.

NOTE Confidence: 0.9310512

00:07:32.820 --> 00:07:36.930 And the increased risk of clonal

NOTE Confidence: 0.9310512

00:07:36.930 --> 00:07:38.446 hematopoiesis on cardiovascular

NOTE Confidence: 0.9310512

00:07:38.446 --> 00:07:41.337 disease is on the order of other

NOTE Confidence: 0.9310512

00:07:41.337 --> 00:07:44.280 very well established risk factors

NOTE Confidence: 0.9310512

00:07:44.280 --> 00:07:46.116 for cardiovascular disease.

NOTE Confidence: 0.9310512

00:07:46.120 --> 00:07:48.759 So this has become a part of

NOTE Confidence: 0.9310512

00:07:48.759 --> 00:07:49.890 our counseling when

NOTE Confidence: 0.93283564

00:07:49.970 --> 00:07:52.796 someone is found to have clonal

NOTE Confidence: 0.93283564

00:07:52.796 --> 00:07:55.209 hematopoiesis about the need to

NOTE Confidence: 0.93283564

00:07:55.209 --> 00:07:57.444 assess for other existing risk

NOTE Confidence: 0.93283564

00:07:57.444 --> 00:07:59.866 factors and to optimize management

NOTE Confidence: 0.93283564

00:07:59.866 --> 00:08:02.996 of those other risk factors.

NOTE Confidence: 0.9291825

00:08:04.210 --> 00:08:06.758 So that all sounds really exciting that

NOTE Confidence: 0.9291825

00:08:06.758 --> 00:08:09.369 you find this precancer as it were.

NOTE Confidence: 0.9291825

00:08:09.370 --> 00:08:11.750 And we know that in a number

NOTE Confidence: 0.9291825

00:08:11.750 --> 00:08:12.770 of other malignancies,

NOTE Confidence: 0.9291825

00:08:12.770 --> 00:08:15.410 for example breast cancer, skin cancer,

NOTE Confidence: 0.9291825

00:08:15.410 --> 00:08:17.414 colon cancer, cervical cancer,

NOTE Confidence: 0.9291825

00:08:17.414 --> 00:08:20.420 we have these preinvasive kind of

NOTE Confidence: 0.9291825

00:08:20.502 --> 00:08:22.926 diseases that we can screen for

NOTE Confidence: 0.9291825

00:08:22.930 --> 00:08:25.390 often times we find them early

NOTE Confidence: 0.9291825

00:08:25.390 --> 00:08:28.288 and that allows us to treat them.

NOTE Confidence: 0.9291825

00:08:28.290 --> 00:08:31.048 So in the case of clonal hematopoiesis,

NOTE Confidence: 0.9291825

00:08:31.050 --> 00:08:33.090 I guess the same question applies.

NOTE Confidence: 0.9291825

00:08:33.090 --> 00:08:35.934 I mean how do we know who gets it?

NOTE Confidence: 0.9291825

00:08:35.940 --> 00:08:38.140 Can we screen for it?

NOTE Confidence: 0.9291825

00:08:38.140 --> 00:08:40.364 And is there anything that we can do

NOTE Confidence: 0.9291825

00:08:40.364 --> 00:08:42.530 that can stop it from progressing

NOTE Confidence: 0.9291825

00:08:42.530 --> 00:08:44.455 to full blown myeloid leukemia?

NOTE Confidence: 0.92829514

00:08:45.340 --> 00:08:48.778 So those are exactly the questions

NOTE Confidence: 0.92829514

00:08:48.778 --> 00:08:53.116 of the moment for this condition.

NOTE Confidence: 0.92829514

00:08:53.116 --> 00:08:56.905 And the simple answer is that we

NOTE Confidence: 0.92829514

00:08:56.905 --> 00:08:59.820 do not screen for this condition

NOTE Confidence: 0.92829514

00:08:59.820 --> 00:09:03.282 because we don't have any proven

NOTE Confidence: 0.92829514

00:09:03.282 --> 00:09:05.590 or validated interventions and

NOTE Confidence: 0.92829514

00:09:05.682 --> 00:09:08.634 in fact we're still defining who

NOTE Confidence: 0.92829514

00:09:08.634 --> 00:09:12.724 would need an intervention at all.

NOTE Confidence: 0.92829514

00:09:12.724 --> 00:09:16.604 So currently this is really

NOTE Confidence: 0.92829514

00:09:16.604 --> 00:09:19.380 found incidentally as a part

NOTE Confidence: 0.92829514

00:09:19.380 --> 00:09:21.380 of other genetic testing.

NOTE Confidence: 0.92829514

00:09:21.380 --> 00:09:24.994 For example, if someone has one, you know,

NOTE Confidence: 0.92829514

00:09:24.994 --> 00:09:28.480 a solid tumor as you were mentioning

NOTE Confidence: 0.92829514

00:09:28.480 --> 00:09:31.840 and underwent genetic testing for that.

NOTE Confidence: 0.92829514

00:09:31.840 --> 00:09:33.216 And there's different kinds,

NOTE Confidence: 0.92829514

00:09:33.216 --> 00:09:35.280 some that would be more directed

NOTE Confidence: 0.92829514

00:09:35.339 --> 00:09:36.747 at characterizing the genetics

NOTE Confidence: 0.92829514

00:09:36.747 --> 00:09:38.155 of the solid tumor.

NOTE Confidence: 0.92829514

00:09:38.160 --> 00:09:39.456 Whereas other people get

NOTE Confidence: 0.92829514

00:09:39.456 --> 00:09:41.076 referred if they have a,

NOTE Confidence: 0.92829514

00:09:41.080 --> 00:09:42.134 for example,

NOTE Confidence: 0.92829514

00:09:42.134 --> 00:09:45.823 a family history of breast cancer or

NOTE Confidence: 0.92829514

00:09:45.823 --> 00:09:48.180 ovarian cancer to genetic counseling.

NOTE Confidence: 0.92829514

00:09:48.180 --> 00:09:50.430 And then there's genetic testing

NOTE Confidence: 0.92829514

00:09:50.430 --> 00:09:53.224 to see if there's an inherited

NOTE Confidence: 0.92829514

00:09:53.224 --> 00:09:56.564 risk for developing cancer.

NOTE Confidence: 0.92829514

00:09:56.564 --> 00:10:00.900 And in the course of such genetic testing,

NOTE Confidence: 0.92829514

00:10:00.900 --> 00:10:03.960 there can be the incidental

NOTE Confidence: 0.92829514

00:10:03.960 --> 00:10:07.646 finding of a genetic mutation that

NOTE Confidence: 0.92829514

00:10:07.646 --> 00:10:10.776 best fits with this condition,

NOTE Confidence: 0.92829514

00:10:10.780 --> 00:10:13.356 this predisease, clonal hematopoiesis.

NOTE Confidence: 0.92829514

00:10:13.356 --> 00:10:17.220 But we don't screen for it.

00:10:19.740 --> 00:10:24.458 If someone has unexplained low blood counts,

NOTE Confidence: 0.9264701

00:10:24.460 --> 00:10:29.542 then we do increasingly send a

NOTE Confidence: 0.9264701

00:10:29.542 --> 00:10:33.630 panel of genetic testing that has a

NOTE Confidence: 0.9264701

00:10:33.630 --> 00:10:38.190 capacity to identify this condition.

NOTE Confidence: 0.9264701

00:10:38.190 --> 00:10:40.998 But if someone does not have low blood

NOTE Confidence: 0.9264701

00:10:40.998 --> 00:10:42.670 counts, if the blood counts are normal,

NOTE Confidence: 0.9264701

00:10:42.670 --> 00:10:47.115 we don't send off such testing to

NOTE Confidence: 0.9264701

00:10:47.115 --> 00:10:49.178 screen for clonal hematopoiesis.

NOTE Confidence: 0.9264701

00:10:49.178 --> 00:10:52.510 And here I should specify the clonal

NOTE Confidence: 0.9264701

00:10:52.588 --> 00:10:55.774 hematopoiesis itself can be further

NOTE Confidence: 0.9264701

00:10:55.774 --> 00:10:58.614 subdivided into those cases where

NOTE Confidence: 0.9264701

00:10:58.614 --> 00:11:01.498 there is a blood count abnormality,

NOTE Confidence: 0.9264701

00:11:01.498 --> 00:11:05.110 like low red blood cells called anemia,

NOTE Confidence: 0.9264701

00:11:05.110 --> 00:11:08.950 low white blood cells called leukopenia

NOTE Confidence: 0.9264701

00:11:08.950 --> 00:11:11.870 or low platelets thrombocytopenia,

NOTE Confidence: 0.9264701

00:11:11.870 --> 00:11:14.790 and that's called secus.

NOTE Confidence: 0.9264701

00:11:14.790 --> 00:11:18.094 It's a very long name clonal cytopenia

NOTE Confidence: 0.9264701

00:11:18.094 --> 00:11:20.104 of undetermined significance and if

NOTE Confidence: 0.9264701

00:11:20.104 --> 00:11:21.589 it's incidentally found in someone

NOTE Confidence: 0.9264701

00:11:21.589 --> 00:11:23.668 who has low normal blood counts,

NOTE Confidence: 0.9264701

00:11:23.670 --> 00:11:26.335 then it's called CHIP, clonal

NOTE Confidence: 0.9264701

00:11:26.335 --> 00:11:28.467 hematopoiesis of indeterminate potential.

NOTE Confidence: 0.9264701

00:11:28.470 --> 00:11:31.521 So the goal in the field is of course

NOTE Confidence: 0.9264701

00:11:31.521 --> 00:11:35.630 for those individuals that seem to

NOTE Confidence: 0.9264701

00:11:35.630 --> 00:11:40.446 have high risk features to ultimately

NOTE Confidence: 0.9264701

00:11:40.446 --> 00:11:43.676 develop effective interventions to

NOTE Confidence: 0.9264701

00:11:43.676 --> 00:11:46.506 halt the progression to cancer.

NOTE Confidence: 0.9264701

00:11:46.510 --> 00:11:49.666 But we're still very much at

NOTE Confidence: 0.9264701

00:11:49.666 --> 00:11:52.226 the beginning of that effort.

NOTE Confidence: 0.9264701

00:11:52.226 --> 00:11:55.238 It's a very exciting effort however,

NOTE Confidence: 0.9264701

00:11:55.240 --> 00:11:55.920 because

NOTE Confidence: 0.9130767

00:11:58.000 --> 00:12:00.148 this condition can develop

NOTE Confidence: 0.9130767

00:12:00.148 --> 00:12:02.490 into something called MDS,

NOTE Confidence: 0.9130767

00:12:02.490 --> 00:12:04.680 myelodysplastic syndrome or

NOTE Confidence: 0.9130767

00:12:04.680 --> 00:12:07.600 even acute myeloid leukemia.

NOTE Confidence: 0.9130767

00:12:07.600 --> 00:12:12.040 And these conditions can have

NOTE Confidence: 0.9130767

00:12:12.040 --> 00:12:14.285 really outcomes that are

NOTE Confidence: 0.9130767

00:12:14.285 --> 00:12:16.770 not what we would want five

NOTE Confidence: 0.9130767

00:12:16.770 --> 00:12:18.566 year survival rates in the case

NOTE Confidence: 0.9130767

00:12:18.566 --> 00:12:21.170 of a ML that on average are 30%.

NOTE Confidence: 0.9130767

00:12:21.170 --> 00:12:24.836 And so it would be very desirable

NOTE Confidence: 0.9130767

00:12:24.836 --> 00:12:29.290 to be able to cut that off at

NOTE Confidence: 0.9130767

00:12:29.290 --> 00:12:32.315 the pass so to speak and that's

NOTE Confidence: 0.9130767

00:12:32.315 --> 00:12:36.410 really a major hope in our field.

NOTE Confidence: 0.9253555

00:12:38.090 --> 00:12:40.340 So for patients who have

NOTE Confidence: 0.9253555

00:12:40.340 --> 00:12:41.690 this premalignant condition,

NOTE Confidence: 0.9253555

00:12:41.690 --> 00:12:44.441 we don't screen for them because there

NOTE Confidence: 0.9253555

00:12:44.441 --> 00:12:46.850 isn't an intervention that can prevent

NOTE Confidence: 0.9253555

00:12:46.850 --> 00:12:49.166 it from becoming an invasive cancer.

NOTE Confidence: 0.9253555

00:12:49.170 --> 00:12:51.408 But is there any merit to

NOTE Confidence: 0.9253555

00:12:51.408 --> 00:12:52.527 following these patients?

NOTE Confidence: 0.9253555

00:12:52.530 --> 00:12:54.420 So let's suppose they incidentally

NOTE Confidence: 0.9253555

00:12:54.420 --> 00:12:56.856 were found to have a genetic

NOTE Confidence: 0.9253555

00:12:56.856 --> 00:12:58.728 mutation on another panel.

NOTE Confidence: 0.9253555

00:12:58.730 --> 00:13:00.977 And so we know that they're at

NOTE Confidence: 0.9253555

00:13:00.977 --> 00:13:03.268 increased risk of getting clonal

NOTE Confidence: 0.9253555

00:13:03.268 --> 00:13:05.146 hematopoiesis and subsequently

NOTE Confidence: 0.9253555

00:13:05.146 --> 00:13:07.650 developing fullblown myeloid leukemia,

NOTE Confidence: 0.9253555

00:13:07.650 --> 00:13:08.638 let's say.

NOTE Confidence: 0.9253555

00:13:08.638 --> 00:13:12.096 Is there any value to following these

NOTE Confidence: 0.9253555

00:13:12.096 --> 00:13:15.648 patients more more frequently to try to

NOTE Confidence: 0.9253555

00:13:15.648 --> 00:13:18.760 discover the leukemia when it develops?

NOTE Confidence: 0.9253555

00:13:18.760 --> 00:13:21.154 If it develops at an earlier stage,

NOTE Confidence: 0.9253555

00:13:21.160 --> 00:13:23.519 maybe we can treat it more effectively,

NOTE Confidence: 0.9253555

00:13:23.520 --> 00:13:25.640 particularly given the fact that

NOTE Confidence: 0.9253555

00:13:25.640 --> 00:13:27.336 this condition is associated

NOTE Confidence: 0.9253555

00:13:27.336 --> 00:13:29.238 with such a poor prognosis?

00:13:31.920 --> 00:13:34.035 That's an excellent question and

NOTE Confidence: 0.93768674

00:13:34.035 --> 00:13:37.023 the short answer is that we are

NOTE Confidence: 0.93768674

00:13:37.023 --> 00:13:39.520 following some of these individuals

NOTE Confidence: 0.93768674

00:13:39.520 --> 00:13:42.073 in clonal hematopoiesis or sometimes

NOTE Confidence: 0.93768674

00:13:42.073 --> 00:13:44.338 they're called chip clinics now.

NOTE Confidence: 0.93768674

00:13:44.340 --> 00:13:49.505 And that is as you're kind

NOTE Confidence: 0.93768674

00:13:49.505 --> 00:13:52.620 of alluding to, to track

NOTE Confidence: 0.93768674

00:13:52.620 --> 00:13:55.056 how things change or don't change.

NOTE Confidence: 0.93768674

00:13:55.060 --> 00:13:58.096 The complication is that in most

NOTE Confidence: 0.93768674

00:13:58.096 --> 00:14:00.460 patients, probably more than 90%,

NOTE Confidence: 0.93768674

00:14:00.460 --> 00:14:02.460 what we're detecting we think

NOTE Confidence: 0.93768674

00:14:02.460 --> 00:14:04.268 is an age-related phenomenon.

NOTE Confidence: 0.93768674

00:14:04.268 --> 00:14:06.788 It's the blood system changing

NOTE Confidence: 0.93768674

00:14:06.788 --> 00:14:09.949 as people age because this is a

NOTE Confidence: 0.93768674

00:14:09.949 --> 00:14:11.914 a fairly frequent condition

NOTE Confidence: 0.93768674

00:14:11.914 --> 00:14:14.952 in older individuals and a rare

NOTE Confidence: 0.93768674

00:14:14.952 --> 00:14:16.976 condition in young individuals,

NOTE Confidence: 0.93768674

00:14:16.980 --> 00:14:19.460 let's say less than 40

NOTE Confidence: 0.93768674

00:14:19.460 --> 00:14:21.940 compared to 70 or older.

NOTE Confidence: 0.93768674

00:14:21.940 --> 00:14:23.540 And so we are starting,

NOTE Confidence: 0.93768674

00:14:23.540 --> 00:14:25.718 to follow these

NOTE Confidence: 0.93768674

00:14:25.718 --> 00:14:28.300 patients as I mentioned and particularly

NOTE Confidence: 0.93768674

00:14:28.300 --> 00:14:31.120 those who have low blood counts,

NOTE Confidence: 0.93768674

00:14:31.120 --> 00:14:33.586 but it's not because we're ready

NOTE Confidence: 0.93768674

00:14:33.586 --> 00:14:36.716 to offer them an intervention.

NOTE Confidence: 0.93768674

00:14:36.720 --> 00:14:41.465 Although clinical trials for

NOTE Confidence: 0.93768674

00:14:41.465 --> 00:14:45.190 the combination of low blood

NOTE Confidence: 0.93768674

00:14:45.190 --> 00:14:48.160 counts and this finding

NOTE Confidence: 0.93768674

00:14:48.160 --> 00:14:49.640 of a genetic fingerprint

NOTE Confidence: 0.9329083

00:14:52.280 --> 00:14:56.180 that overlaps with the net genetic

NOTE Confidence: 0.9329083

00:14:56.180 --> 00:14:58.780 fingerprint of myeloid cancers.

NOTE Confidence: 0.9329083

00:14:58.780 --> 00:15:01.260 When those two things coincide and seek us,

NOTE Confidence: 0.9329083

00:15:01.260 --> 00:15:03.860 then there are clinical trials

NOTE Confidence: 0.9329083

00:15:03.860 --> 00:15:05.700 and interventions that are under

NOTE Confidence: 0.9329083

00:15:05.700 --> 00:15:07.172 development for these patients.

NOTE Confidence: 0.9329083

00:15:07.180 --> 00:15:10.372 So we have a clonal hematopoiesis clinic

NOTE Confidence: 0.9329083

00:15:10.372 --> 00:15:13.180 here at Yale where we're doing just that.

NOTE Confidence: 0.9329083

00:15:13.180 --> 00:15:14.828 We're following these patients

NOTE Confidence: 0.9329083

00:15:14.828 --> 00:15:18.052 and the goal will be to offer a

NOTE Confidence: 0.9329083

00:15:18.052 --> 00:15:20.200 subset of them clinical trials as

NOTE Confidence: 0.9329083

00:15:20.200 --> 00:15:23.684 a part of the effort to learn and

NOTE Confidence: 0.9329083

00:15:23.684 --> 00:15:25.898 to change the disease course.

NOTE Confidence: 0.93652546

00:15:27.800 --> 00:15:29.534 Terrific. Well, we're going to take

NOTE Confidence: 0.93652546

00:15:29.534 --> 00:15:31.678 a short break for a medical minute,

NOTE Confidence: 0.93652546

00:15:31.680 --> 00:15:33.864 but after the break, I'd like to learn

NOTE Confidence: 0.93652546

00:15:33.864 --> 00:15:35.785 more about the research that's been

NOTE Confidence: 0.93652546

00:15:35.785 --> 00:15:37.759 going on to potentially help these

NOTE Confidence: 0.93652546

00:15:37.815 --> 00:15:39.599 patients with myeloid disorders,

NOTE Confidence: 0.93652546

00:15:39.600 --> 00:15:41.480 particularly in honor of

NOTE Confidence: 0.93652546

00:15:41.480 --> 00:15:43.360 Blood Cancer Awareness month.

NOTE Confidence: 0.93652546

00:15:43.360 --> 00:15:44.940 Please stay tuned to learn

NOTE Confidence: 0.93652546

00:15:44.940 --> 00:15:46.520 more with my guest Dr.

NOTE Confidence: 0.93652546

00:15:46.520 --> 00:15:47.600 Lourdes Mendez.

NOTE Confidence: 0.93652546

00:15:48.600 --> 00:15:50.615 Funding for Yale Cancer Answers

NOTE Confidence: 0.93652546

00:15:50.615 --> 00:15:52.630 comes from Smilow Cancer Hospital,

NOTE Confidence: 0.93652546

00:15:52.630 --> 00:15:54.206 where their hematology program

NOTE Confidence: 0.93652546

00:15:54.206 --> 00:15:56.176 offers diagnosis and treatment of

NOTE Confidence: 0.93652546

00:15:56.176 --> 00:15:58.150 blood cancers including lymphoma,

NOTE Confidence: 0.93652546

00:15:58.150 --> 00:16:00.289 leukemia, and myeloma.

NOTE Confidence: 0.93652546

00:16:00.289 --> 00:16:03.194 More at smilowcancerhospital.org or

NOTE Confidence: 0.93652546

00:16:03.194 --> 00:16:05.868 e-mail Cancer Answers at Yale dot Edu.

NOTE Confidence: 0.9094017

00:16:08.190 --> 00:16:09.978 Breast cancer is one of the

NOTE Confidence: 0.9094017

00:16:09.978 --> 00:16:11.590 most common cancers in women.

NOTE Confidence: 0.9094017

00:16:11.590 --> 00:16:12.931 In Connecticut alone,

NOTE Confidence: 0.9094017

00:16:12.931 --> 00:16:15.166 approximately 3500 women will be

NOTE Confidence: 0.9094017

00:16:15.166 --> 00:16:17.677 diagnosed with breast cancer this year.

NOTE Confidence: 0.9094017

00:16:17.680 --> 00:16:19.180 But there is hope thanks

NOTE Confidence: 0.9094017

00:16:19.180 --> 00:16:20.080 to earlier detection,

NOTE Confidence: 0.9094017

00:16:20.080 --> 00:16:20.920 noninvasive treatments,

NOTE Confidence: 0.9094017

00:16:20.920 --> 00:16:23.440 and the development of novel therapies.

NOTE Confidence: 0.9094017

00:16:23.440 --> 00:16:25.056 To fight breast cancer,

NOTE Confidence: 0.9094017

00:16:25.056 --> 00:16:27.076 women should schedule a baseline

NOTE Confidence: 0.9094017

00:16:27.076 --> 00:16:29.018 mammogram beginning at age 40 or

NOTE Confidence: 0.9094017

00:16:29.018 --> 00:16:30.994 earlier if they have risk factors

NOTE Confidence: 0.9094017

00:16:30.994 --> 00:16:32.758 associated with the disease.

NOTE Confidence: 0.9094017

00:16:32.760 --> 00:16:34.460 With screening, early detection,

NOTE Confidence: 0.9094017

00:16:34.460 --> 00:16:36.160 and a healthy lifestyle,

NOTE Confidence: 0.9094017

00:16:36.160 --> 00:16:38.320 breast cancer can be defeated.

NOTE Confidence: 0.9094017

00:16:38.320 --> 00:16:40.320 Clinical trials are currently

NOTE Confidence: 0.9094017

00:16:40.320 --> 00:16:42.320 underway at federally designated

NOTE Confidence: 0.9094017

00:16:42.320 --> 00:16:44.050 comprehensive cancer centers such

NOTE Confidence: 0.9094017

00:16:44.050 --> 00:16:46.367 as Yale Cancer Center and Smilow

NOTE Confidence: 0.9094017

00:16:46.367 --> 00:16:48.450 Cancer Hospital to make innovative

NOTE Confidence: 0.9094017

00:16:48.450 --> 00:16:50.450 new treatments available to patients.

NOTE Confidence: 0.9094017

00:16:50.450 --> 00:16:52.940 Digital breast homosynthesis or 3D

NOTE Confidence: 0.9094017

00:16:52.940 --> 00:16:55.430 mammography is also transforming breast

NOTE Confidence: 0.9094017

00:16:55.503 --> 00:16:57.711 cancer screening by significantly

NOTE Confidence: 0.9094017

00:16:57.711 --> 00:16:59.367 reducing unnecessary procedures

NOTE Confidence: 0.9094017

00:16:59.367 --> 00:17:01.970 while picking up more cancers.

NOTE Confidence: 0.9094017

00:17:01.970 --> 00:17:04.274 More information is available

NOTE Confidence: 0.9094017

00:17:04.274 --> 00:17:05.421 at yalecancercenter.org.

NOTE Confidence: 0.9094017

00:17:05.421 --> 00:17:08.847 You're listening to Connecticut Public Radio.

NOTE Confidence: 0.9094017

00:17:08.850 --> 00:17:09.210 Welcome

NOTE Confidence: 0.9379666

00:17:09.210 --> 00:17:10.890 back to Yale Cancer Answers.

NOTE Confidence: 0.9379666

00:17:10.890 --> 00:17:12.780 This is Doctor Anees Chagpar and

NOTE Confidence: 0.9379666

00:17:12.780 --> 00:17:14.630 I'm joined tonight by my guest,

NOTE Confidence: 0.9379666

00:17:14.630 --> 00:17:15.803 Doctor Lourdes Mendez.

NOTE Confidence: 0.9379666

00:17:15.803 --> 00:17:18.149 We're discussing the care of patients

NOTE Confidence: 0.9379666

00:17:18.149 --> 00:17:20.177 with myeloid disorders in honor

NOTE Confidence: 0.9379666

00:17:20.177 --> 00:17:22.147 of Blood Cancer Awareness Month.

NOTE Confidence: 0.9379666

00:17:22.150 --> 00:17:23.310 And right before the break,

NOTE Confidence: 0.9379666

00:17:23.310 --> 00:17:24.414 Doctor Mendez,

NOTE Confidence: 0.9379666

00:17:24.414 --> 00:17:27.726 you were telling us about this

NOTE Confidence: 0.9379666

00:17:27.726 --> 00:17:29.881 phenomenon of clonal hematopoiesis

NOTE Confidence: 0.9379666

00:17:29.881 --> 00:17:33.854 and how this is a a novel kind

NOTE Confidence: 0.9379666

00:17:33.854 --> 00:17:37.598 of discovery of what is

NOTE Confidence: 0.9379666

00:17:37.598 --> 00:17:39.470 essentially a premalignancy,

NOTE Confidence: 0.9379666

00:17:39.470 --> 00:17:45.010 a predisease that leads to myeloid leukemias.

NOTE Confidence: 0.9379666

00:17:45.010 --> 00:17:47.010 So a couple of questions.

NOTE Confidence: 0.9379666

00:17:47.010 --> 00:17:49.218 Given the fact that we're still

NOTE Confidence: 0.9379666

00:17:49.218 --> 00:17:50.690 learning about this disease,

NOTE Confidence: 0.9379666

00:17:50.690 --> 00:17:53.133 can you shed some light on some

NOTE Confidence: 0.9379666

00:17:53.133 --> 00:17:55.369 of the research that's going on

NOTE Confidence: 0.9379666

00:17:55.370 --> 00:17:58.106 into it and and perhaps into

NOTE Confidence: 0.9379666

00:17:58.106 --> 00:17:59.930 myeloid leukemias as well?

NOTE Confidence: 0.932743

00:18:01.290 --> 00:18:04.050 Absolutely. So in terms of

NOTE Confidence: 0.932743

00:18:04.050 --> 00:18:06.810 the research in this space,

NOTE Confidence: 0.932743

00:18:06.810 --> 00:18:09.630 it's of great interest to kind

NOTE Confidence: 0.932743

00:18:09.630 --> 00:18:13.386 of define what is the natural

NOTE Confidence: 0.932743

00:18:13.386 --> 00:18:14.969 history of this condition.

NOTE Confidence: 0.932743

00:18:14.969 --> 00:18:15.848 So what happened,

NOTE Confidence: 0.932743

00:18:15.850 --> 00:18:18.170 meaning what happens over time,

NOTE Confidence: 0.932743

00:18:18.170 --> 00:18:20.480 when does this start and

NOTE Confidence: 0.932743

00:18:20.480 --> 00:18:22.930 how long is it present?

NOTE Confidence: 0.932743

00:18:22.930 --> 00:18:26.530 Before maybe we can detect it,

NOTE Confidence: 0.932743

00:18:26.530 --> 00:18:31.010 or before it becomes a blood cancer,

NOTE Confidence: 0.932743

00:18:31.010 --> 00:18:35.610 a myeloid neoplasm, for example?

NOTE Confidence: 0.932743

00:18:35.610 --> 00:18:38.562 And one of the things that has

NOTE Confidence: 0.932743

00:18:38.562 --> 00:18:42.090 been reported by scientists who are

NOTE Confidence: 0.932743

00:18:42.090 --> 00:18:44.650 studying clonal hematopoiesis is

NOTE Confidence: 0.932743

00:18:44.650 --> 00:18:48.015 that the best estimations are that

NOTE Confidence: 0.932743

00:18:48.015 --> 00:18:51.165 in probably the majority of cases,

NOTE Confidence: 0.932743

00:18:51.170 --> 00:18:55.105 this condition is present for decades,

NOTE Confidence: 0.932743

00:18:55.105 --> 00:18:59.410 maybe 30 years before it's actually detected.

NOTE Confidence: 0.932743

00:18:59.410 --> 00:19:03.050 Which is really, I think in my mind,

NOTE Confidence: 0.932743

00:19:03.050 --> 00:19:08.076 startling to think that the roots

NOTE Confidence: 0.932743

00:19:08.076 --> 00:19:11.980 of a cancer could go back so far.

NOTE Confidence: 0.932743

00:19:11.980 --> 00:19:12.992 But again,

NOTE Confidence: 0.932743

00:19:12.992 --> 00:19:16.460 I think it's worth reiterating

NOTE Confidence: 0.932743

00:19:16.460 --> 00:19:20.020 that this is a pre disease.

NOTE Confidence: 0.932743

00:19:20.020 --> 00:19:23.260 Maybe that's one of the best ways to call it,

NOTE Confidence: 0.932743

00:19:23.260 --> 00:19:26.396 because in some ways it and in most

NOTE Confidence: 0.932743

00:19:26.396 --> 00:19:29.998 people it's probably a reflection of

NOTE Confidence: 0.932743

00:19:29.998 --> 00:19:34.388 aging more than a condition that has

NOTE Confidence: 0.932743

00:19:34.388 --> 00:19:37.298 any significant pre malignant potential.

NOTE Confidence: 0.932743

00:19:37.300 --> 00:19:40.716 So even though I spoke about the fact

NOTE Confidence: 0.932743

00:19:40.716 --> 00:19:43.461 that there's an elevenfold increased

NOTE Confidence: 0.932743

00:19:43.461 --> 00:19:46.724 risk of a hematologic malignancy,

NOTE Confidence: 0.932743

00:19:46.724 --> 00:19:50.054 I also mentioned that probably

NOTE Confidence: 0.932743

00:19:50.054 --> 00:19:53.805 in 90% of individuals this

NOTE Confidence: 0.932743

00:19:53.805 --> 00:19:56.097 is not going to

NOTE Confidence: 0.93404955

00:19:58.680 --> 00:20:01.680 lead to a significant risk of

NOTE Confidence: 0.93404955

00:20:01.680 --> 00:20:04.998 a blood cancer and that the

NOTE Confidence: 0.93404955

00:20:05.000 --> 00:20:06.878 risk of developing a blood cancer,

NOTE Confidence: 0.93404955

00:20:06.880 --> 00:20:09.076 the annual risk, is under 1%.

NOTE Confidence: 0.93404955

00:20:09.080 --> 00:20:10.480 That's taken as a whole.

NOTE Confidence: 0.93404955

00:20:10.480 --> 00:20:14.344 So really

NOTE Confidence: 0.93404955

00:20:14.344 --> 00:20:16.728 maybe one of the main challenges is

NOTE Confidence: 0.93404955

00:20:16.728 --> 00:20:19.043 separating out the high risk from

NOTE Confidence: 0.93404955

00:20:19.043 --> 00:20:22.181 the low risk individuals and so

NOTE Confidence: 0.93404955

00:20:22.181 --> 00:20:26.370 there's a lot of effort to understand,

NOTE Confidence: 0.93404955

00:20:26.370 --> 00:20:30.330 to have to collect groups of these cases

NOTE Confidence: 0.93404955

00:20:30.330 --> 00:20:35.460 across academic institutions and to

NOTE Confidence: 0.93404955

00:20:35.460 --> 00:20:38.850 to understand what types of mutations,

NOTE Confidence: 0.93404955

00:20:38.850 --> 00:20:41.890 how much of that mutation,

NOTE Confidence: 0.93404955

00:20:41.890 --> 00:20:46.290 what kind of other traits and

NOTE Confidence: 0.93404955

00:20:46.290 --> 00:20:48.648 in the blood count, for example.

NOTE Confidence: 0.93404955

00:20:48.650 --> 00:20:52.618 How do these things fit together to

NOTE Confidence: 0.93404955

00:20:52.618 --> 00:20:55.754 associate either with a very low risk

NOTE Confidence: 0.93404955

00:20:55.754 --> 00:20:58.767 situation or a higher risk situation?

NOTE Confidence: 0.93404955

00:20:58.770 --> 00:21:02.081 So some of the efforts in terms

NOTE Confidence: 0.93404955

00:21:02.081 --> 00:21:04.062 of potential interventions for

NOTE Confidence: 0.93404955

00:21:04.062 --> 00:21:06.452 those individuals who are higher

NOTE Confidence: 0.93404955

00:21:06.452 --> 00:21:08.890 risk are using designer drugs,

NOTE Confidence: 0.93404955

00:21:08.890 --> 00:21:12.821 which we also call targeted drugs which are

NOTE Confidence: 0.93404955

00:21:12.821 --> 00:21:15.985 already in use for example in leukemia.

NOTE Confidence: 0.93404955

00:21:15.990 --> 00:21:18.042 So in CML,

NOTE Confidence: 0.93404955

00:21:18.042 --> 00:21:22.183 we use a class of medications called IDH

NOTE Confidence: 0.93404955

00:21:22.183 --> 00:21:26.348 inhibitors that target IDH mutations.

NOTE Confidence: 0.93404955

00:21:26.350 --> 00:21:32.065 And so this is going to be a forthcoming

NOTE Confidence: 0.93404955

00:21:32.070 --> 00:21:35.616 strategy that's going to be tested in

NOTE Confidence: 0.93404955

00:21:35.616 --> 00:21:38.746 patients who have high

NOTE Confidence: 0.93404955

00:21:38.746 --> 00:21:40.624 risk clonal hematopoiesis.

NOTE Confidence: 0.93404955

00:21:40.630 --> 00:21:43.622 There's also another mutation

NOTE Confidence: 0.93404955

00:21:43.622 --> 00:21:47.362 in both clonal hematopoiesis and

NOTE Confidence: 0.93404955

00:21:47.362 --> 00:21:49.990 myeloid cancer is called TET 2,

NOTE Confidence: 0.93404955

00:21:49.990 --> 00:21:52.470 and it has a cofactor,

NOTE Confidence: 0.93404955

00:21:52.470 --> 00:21:54.924 vitamin C And so there's another

NOTE Confidence: 0.93404955

00:21:54.924 --> 00:21:57.550 clinical trial that's going to test high

NOTE Confidence: 0.93404955

00:21:57.550 --> 00:22:01.070 doses of vitamin C and when I last checked,

NOTE Confidence: 0.93404955

00:22:01.070 --> 00:22:04.640 there's also going to be a clinical

NOTE Confidence: 0.93404955

00:22:04.640 --> 00:22:08.050 trial even checking whether

NOTE Confidence: 0.93404955

00:22:08.050 --> 00:22:12.150 something like metformin may have

NOTE Confidence: 0.93404955

00:22:12.150 --> 00:22:15.450 some potential to change the natural

NOTE Confidence: 0.93404955

00:22:15.450 --> 00:22:17.292 progression of this condition.

NOTE Confidence: 0.93404955

00:22:17.292 --> 00:22:19.889 So there are lots of things being

NOTE Confidence: 0.93404955

00:22:19.889 --> 00:22:22.444 planned and underway and lots of

NOTE Confidence: 0.93404955

00:22:22.444 --> 00:22:24.762 collaborations that we are also

NOTE Confidence: 0.93404955

00:22:24.762 --> 00:22:28.145 participating in to do 2 things kind

NOTE Confidence: 0.93404955

00:22:28.145 --> 00:22:30.580 of simultaneously, to continue to

NOTE Confidence: 0.93404955

00:22:30.678 --> 00:22:34.234 learn about the basic biology and the,

NOTE Confidence: 0.93404955

00:22:34.240 --> 00:22:35.644 as I was saying,

NOTE Confidence: 0.93404955

00:22:35.644 --> 00:22:37.399 natural history of these conditions.

NOTE Confidence: 0.93404955

00:22:37.400 --> 00:22:40.800 And also at the same time based as

NOTE Confidence: 0.93404955

00:22:40.800 --> 00:22:44.014 we learn things in real time to

NOTE Confidence: 0.93404955

00:22:44.014 --> 00:22:46.021 pull from even existing therapies

NOTE Confidence: 0.93404955

00:22:46.021 --> 00:22:48.955 and see if for people who are who

NOTE Confidence: 0.93404955

00:22:48.955 --> 00:22:50.119 are at high risk,

NOTE Confidence: 0.93404955

00:22:50.120 --> 00:22:52.542 we can start to have them benefit

NOTE Confidence: 0.93404955

00:22:52.542 --> 00:22:54.639 from what we already know.

NOTE Confidence: 0.9237752

00:22:56.000 --> 00:22:58.440 So that sounds really exciting.

NOTE Confidence: 0.9237752

00:22:58.440 --> 00:23:00.170 The other thing that

NOTE Confidence: 0.9237752

00:23:00.170 --> 00:23:01.861 we often think about is,

NOTE Confidence: 0.9237752

00:23:01.861 --> 00:23:03.968 you know when you were talking about

NOTE Confidence: 0.9237752

00:23:03.968 --> 00:23:05.819 this being a genetic condition,

NOTE Confidence: 0.9237752

00:23:05.820 --> 00:23:10.097 so you can find mutations very

NOTE Confidence: 0.9237752

00:23:10.097 --> 00:23:12.239 often these days we hear about

NOTE Confidence: 0.9237752

00:23:12.239 --> 00:23:14.498 things like CRISPR and gene editing.

NOTE Confidence: 0.9237752

00:23:14.500 --> 00:23:17.156 Can you talk a little bit more about

NOTE Confidence: 0.9237752

00:23:17.156 --> 00:23:19.344 what exactly those are and if they

NOTE Confidence: 0.9237752

00:23:19.344 --> 00:23:21.819 have any role to play in this space?

NOTE Confidence: 0.94193125

00:23:22.460 --> 00:23:25.156 I'm glad you bring up the point

NOTE Confidence: 0.94193125

00:23:25.156 --> 00:23:27.138 about mutations and genetics.

NOTE Confidence: 0.94193125

00:23:27.138 --> 00:23:32.138 So it I think it's worth spending a few

NOTE Confidence: 0.94193125

00:23:32.138 --> 00:23:35.270 seconds to distinguish inherited genetic

NOTE Confidence: 0.94193125

00:23:35.270 --> 00:23:39.830 changes or mutations or variants from

NOTE Confidence: 0.94193125

00:23:39.830 --> 00:23:43.030 acquired during someone's lifetime.

00:23:45.660 --> 00:23:48.750 The condition I've been talking about,

NOTE Confidence: 0.94193125

00:23:48.750 --> 00:23:50.762 I'm referring to mutations

NOTE Confidence: 0.94193125

00:23:50.762 --> 00:23:53.277 that occurred during a person's

NOTE Confidence: 0.94193125

00:23:53.277 --> 00:23:56.496 lifetime and not changes that were

NOTE Confidence: 0.94193125

00:23:56.496 --> 00:23:59.304 inherited from someone's parents.

NOTE Confidence: 0.94193125

00:23:59.310 --> 00:24:01.548 So just to make that distinction,

NOTE Confidence: 0.94193125

00:24:01.550 --> 00:24:04.026 we do have information,

NOTE Confidence: 0.94193125

00:24:04.026 --> 00:24:05.883 increasing information in

NOTE Confidence: 0.94193125

00:24:05.883 --> 00:24:08.550 myeloid diseases as a whole,

NOTE Confidence: 0.94193125

00:24:08.550 --> 00:24:12.134 that there are people who are born

NOTE Confidence: 0.94193125

00:24:12.134 --> 00:24:14.980 with a susceptibility to myeloid

NOTE Confidence: 0.94193125

00:24:14.980 --> 00:24:18.910 diseases and really to blood cancers.

NOTE Confidence: 0.94193125

00:24:18.910 --> 00:24:21.633 So that field is really gaining

NOTE Confidence: 0.94193125

00:24:21.633 --> 00:24:24.291 more and more momentum and we

NOTE Confidence: 0.94193125

00:24:24.291 --> 00:24:27.970 now know that also true of

NOTE Confidence: 0.94193125

00:24:27.970 --> 00:24:31.218 clonal hematopoesis where there are

NOTE Confidence: 0.94193125

00:24:31.218 --> 00:24:37.756 places in our genome in our DNA that

NOTE Confidence: 0.94193125

00:24:37.756 --> 00:24:40.596 are associated with an increased

NOTE Confidence: 0.94193125

00:24:40.596 --> 00:24:43.700 risk for clonal hematopoesis.

NOTE Confidence: 0.94193125

00:24:43.700 --> 00:24:48.215 And then to your question about these

NOTE Confidence: 0.94193125

00:24:48.220 --> 00:24:52.224 technologies that were first

NOTE Confidence: 0.94193125

00:24:52.224 --> 00:24:57.730 used in the laboratory to change

NOTE Confidence: 0.94193125

00:24:57.730 --> 00:25:01.210 genes like you were referring to

NOTE Confidence: 0.94193125

00:25:01.210 --> 00:25:04.630 CRISPR editing tools that are now

NOTE Confidence: 0.94193125

00:25:04.630 --> 00:25:06.902 commonly used in experiments.

NOTE Confidence: 0.94193125

00:25:06.910 --> 00:25:11.628 So these to my knowledge are not

NOTE Confidence: 0.94193125

00:25:11.630 --> 00:25:14.588 part of the kind of first

NOTE Confidence: 0.935169

00:25:16.880 --> 00:25:18.866 round of intervention so to speak

NOTE Confidence: 0.935169

00:25:18.866 --> 00:25:20.680 or clinical trials that are

NOTE Confidence: 0.935169

00:25:20.680 --> 00:25:22.400 planned for clonal hematopoiesis.

NOTE Confidence: 0.935169

00:25:22.400 --> 00:25:25.740 But they are being applied

NOTE Confidence: 0.935169

00:25:25.740 --> 00:25:29.640 in other blood diseases.

NOTE Confidence: 0.935169

00:25:29.640 --> 00:25:33.890 And it it is very tantalizing to

NOTE Confidence: 0.935169

00:25:33.890 --> 00:25:37.285 imagine that at some point they could

NOTE Confidence: 0.935169

00:25:37.285 --> 00:25:41.516 be applied as a precision tool to fix

NOTE Confidence: 0.935169

00:25:41.520 --> 00:25:45.560 this acquired genetic abnormality and

NOTE Confidence: 0.935169

00:25:45.560 --> 00:25:49.010 stop progression to a blood cancer.

00:25:53.705 --> 00:25:57.274 When we think about the

NOTE Confidence: 0.923413

00:25:57.274 --> 00:26:00.010 preconditions clonal hematopoiesis,

NOTE Confidence: 0.923413

00:26:00.010 --> 00:26:02.852 one of the nice things that you

NOTE Confidence: 0.923413

00:26:02.852 --> 00:26:05.469 were mentioning is that

NOTE Confidence: 0.923413

00:26:05.469 --> 00:26:08.097 trying to think about therapies that

NOTE Confidence: 0.923413

00:26:08.097 --> 00:26:11.634 are relatively non-toxic that can

NOTE Confidence: 0.923413

00:26:11.634 --> 00:26:16.350 potentially slow or even prevent

NOTE Confidence: 0.923413

00:26:16.350 --> 00:26:19.870 progression to fullblown leukemias.

NOTE Confidence: 0.923413

00:26:19.870 --> 00:26:22.158 Can you talk a little bit about some

NOTE Confidence: 0.923413

00:26:22.158 --> 00:26:24.458 of the research and work that's been

NOTE Confidence: 0.923413

00:26:24.458 --> 00:26:27.590 going on in terms of leukemias themselves?

NOTE Confidence: 0.923413

00:26:27.590 --> 00:26:30.432 I mean are we making any progress

NOTE Confidence: 0.923413

00:26:30.432 --> 00:26:33.147 on the research front in terms of

NOTE Confidence: 0.923413

00:26:33.150 --> 00:26:35.955 more targeted therapies for these

NOTE Confidence: 0.923413

00:26:35.955 --> 00:26:38.760 kinds of leukemias whether that's

NOTE Confidence: 0.923413

00:26:38.845 --> 00:26:40.965 with the precision drugs

NOTE Confidence: 0.923413

00:26:40.965 --> 00:26:43.642 that you were talking about or

NOTE Confidence: 0.923413

00:26:43.642 --> 00:26:45.298 even things like immunotherapies.

NOTE Confidence: 0.9351354

00:26:46.900 --> 00:26:51.139 So thank you for the question because

NOTE Confidence: 0.9351354

00:26:51.140 --> 00:26:53.499 as I mentioned at the very beginning,

NOTE Confidence: 0.9351354

00:26:53.500 --> 00:26:55.772 this is a time of a lot of

NOTE Confidence: 0.9351354

00:26:55.772 --> 00:26:58.160 optimism in our field for myeloid

NOTE Confidence: 0.9351354

00:26:58.160 --> 00:27:00.260 diseases and for acute leukemias.

NOTE Confidence: 0.9351354

00:27:00.260 --> 00:27:04.652 Our toolbox has really increased in the

NOTE Confidence: 0.9351354

00:27:04.652 --> 00:27:08.162 last several years and it's becoming

NOTE Confidence: 0.9351354

00:27:08.162 --> 00:27:12.022 more complex in a good way in terms

NOTE Confidence: 0.9351354

00:27:12.022 --> 00:27:14.724 of decisions as to how to approach

NOTE Confidence: 0.9351354

00:27:14.730 --> 00:27:16.290 the treatment of these conditions.

00:27:18.110 --> 00:27:20.385 We are seeing improvements and

NOTE Confidence: 0.9351354

00:27:20.385 --> 00:27:22.810 outcomes for patients as a result

NOTE Confidence: 0.9351354

00:27:22.810 --> 00:27:25.846 of these of this increased toolbox

NOTE Confidence: 0.9351354

00:27:25.850 --> 00:27:30.850 and that really those gains are

NOTE Confidence: 0.9351354

00:27:30.850 --> 00:27:34.632 on years of of research on the

NOTE Confidence: 0.9351354

00:27:34.632 --> 00:27:37.850 molecular biology of these conditions.

NOTE Confidence: 0.9351354

00:27:37.850 --> 00:27:42.914 And to give an example of something

NOTE Confidence: 0.9351354

00:27:42.914 --> 00:27:46.194 that's exciting in the other

NOTE Confidence: 0.9351354

00:27:46.194 --> 00:27:48.906 type of acute leukemia and acute

NOTE Confidence: 0.9351354

00:27:48.906 --> 00:27:51.430 lymphoblastic leukemia in a subtype

NOTE Confidence: 0.9351354

00:27:51.430 --> 00:27:53.581 called pH positive BALL,

NOTE Confidence: 0.9351354

00:27:53.581 --> 00:27:56.767 there's a lot of discussion about

NOTE Confidence: 0.9351354

00:27:56.770 --> 00:27:59.130 the potential of chemotherapy free

NOTE Confidence: 0.9351354

00:27:59.130 --> 00:28:01.490 treatment now and that's

NOTE Confidence: 0.9351354

00:28:01.564 --> 00:28:04.000 one thing that we're very excited

NOTE Confidence: 0.9351354

00:28:04.000 --> 00:28:06.676 about is the potential to spare

NOTE Confidence: 0.9351354

00:28:06.676 --> 00:28:09.106 our patients the side effects

NOTE Confidence: 0.9351354

00:28:09.106 --> 00:28:10.564 of traditional chemotherapy.

NOTE Confidence: 0.9351354

00:28:10.570 --> 00:28:13.465 But we're also very involved as

NOTE Confidence: 0.9351354

00:28:13.465 --> 00:28:17.066 a field and in Yale in testing

NOTE Confidence: 0.9351354

00:28:17.066 --> 00:28:19.994 ways to modulate the immune system

NOTE Confidence: 0.9351354

00:28:19.994 --> 00:28:22.730 against myeloid diseases and against

NOTE Confidence: 0.9351354

00:28:22.730 --> 00:28:24.846 acute leukemia in particular.

NOTE Confidence: 0.9351354

00:28:24.846 --> 00:28:29.136 And so that's a cause for a lot

NOTE Confidence: 0.9351354

00:28:29.136 --> 00:28:31.960 of optimism and excitement.

NOTE Confidence: 0.9299148

00:28:32.520 --> 00:28:33.916 Dr. Lourdes Mendez

NOTE Confidence: 0.9299148

00:28:33.916 --> 00:28:35.661 is an assistant professor of

NOTE Confidence: 0.9299148

00:28:35.661 --> 00:28:37.109 medicine and hematology at

NOTE Confidence: 0.9299148

00:28:37.109 --> 00:28:38.839 the Yale School of Medicine.

NOTE Confidence: 0.9299148

00:28:38.840 --> 00:28:40.828 If you have questions,

NOTE Confidence: 0.9299148

00:28:40.828 --> 00:28:42.771 the address is canceranswers@yale.edu,

NOTE Confidence: 0.9299148

00:28:42.771 --> 00:28:45.477 and past editions of the program

NOTE Confidence: 0.9299148

00:28:45.477 --> 00:28:47.822 are available in audio and written

NOTE Confidence: 0.9299148

00:28:47.822 --> 00:28:48.746 form at yalecancercenter.org.

NOTE Confidence: 0.9299148

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

NOTE Confidence: 0.9299148

00:28:51.194 --> 00:28:53.058 learn more about the fight against

NOTE Confidence: 0.9299148

00:28:53.058 --> 00:28:54.910 cancer here on Connecticut Public Radio.

NOTE Confidence: 0.9299148

00:28:54.910 --> 00:28:57.526 Funding for Yale Cancer Answers is

NOTE Confidence: 0.9299148

00:28:57.526 --> 00:29:00.000 provided by Smilow Cancer Hospital.