EXHIBIT 5

In the Matter Of:

GVHD KOL Panel - Treatment Practices

Video Recording

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The following is a video recording of GVHD KOL Panel - Treatment Practices and Commercial Applications for Novel Therapeutics on June 8, 2020, transcribed by Susan Arnold Yoder, RPR, CRR.

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MS. MERLE: Well, thanks, everyone, for joining us. I'm Ellie Merle. I'm one of the small and mid cap biotech analysts here at Cantor covering Kadmon. I'm very happy to have Dr. Gutman and Dr. Ferrara with us to help us better understand the GVHD landscape.

Also on the line are my colleagues Alethia Young, who covers large-cap biotech, and Louise Chen, who covers specialty pharma and large-cap pharma as well. So thank you, guys, for joining us.

And before we get started, I just have a quick disclaimer statement to read. The specialists have confirmed that they will not disclose any material nonpublic information. The audience and we will frame our questions appropriately.

Also, just a logistical point, there is a Q and A open in the Zoom chat. If you guys have questions, feel free to put those there.

And then just before we jump

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in, I'll just give a quick intro on the biographies of our two speakers who have graciously agreed to speak with us today.

So on the line we have Dr. Ferrara, who is currently a professor of hematology and medical oncology at the Mount Sinai Hospital. He's a physician-scientist whose clinical and research careers focus on the immunology of bone marrow transplant, particularly in graph-versus-host disease.

Also on the line with us is Jonathan Gutman. He is the director of the allogeneic transplant center at the University of Colorado. He's also served as a co-medical director of the University of Colorado Cord Blood bank.

So thank you, guys, very much for joining us today. And I guess, you know, just to kick it off, could you both tell us a bit about your practice in graph-versus-host disease, both in terms of the number of acute and chronic patients that you have, and then we'll jump into

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sort of, you know, how you manage patients your view on the unmet need.

DR. FERRARA: Who starts? Should I start?

MS. MERLE: Yeah. Go ahead.

DR. FERRARA: So I probably myself treat between 20 and 30 patients with acute GVHD and 30-plus patients with chronic GVHD each year. We have an active allogeneic transplant program here at Mount Sinai.

But, in addition, I monitor a large consortium that is focused on the natural history of acute GVHD that now includes chronic GVHD. And I've been active in research for new therapies for several decades now.

And so I think I have a pretty good view of what the issues are, where the clinical trials are, and what the future is going to be in this therapeutic space.

MS. MERLE: Awesome.

Dr. Gutman are you there with us? Can you tell us a little bit about

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your practice and experience?

DR. GUTMAN: Sure. I'm here. And I apologize. I'm having a little video difficulty, but hopefully my voice can stand in and I can send you picture.

But I'm an allogeneic stem cell transplant physician also. And our program is an adult transplant program, though we do work with our pediatric colleagues down the street, and I think I have at least a little flavor for what they're up to also.

But we do approximately 85 allogeneic transplants a year, and I actually end up managing, at least at the top level, the majority of them.

So in a typical year I'm probably seeing on the order of 40 or so acute GVHD patients with grade 2 or higher acute GVHD and then follow many chronic GVHD patients also, though we do a lot in our program to try to even avoid chronic GVHD, which is, I'm sure, a topic we could discuss. So that's a little bit about me.

MS. MERLE: Great. Thanks.

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And then, yeah, I guess jumping into sort of how you manage these patients, both on the acute and chronic side, you know, what proportion respond to steroids, what proportion don't, are there any trends in how this is changing over time, and I guess how you manage patients when they don't respond to steroids.

DR. FERRARA: Okay. Well, very briefly, I would say that approximately a little fewer -- a little less than half of the patients respond -- so this is acute GVHD, and you sort of have to separate them.

I would say acute GVHD, less than half of the patients respond completely to steroids and need some other form of treatment. You know, we -- GI GVHD is the most worrisome target organ. That's the one that's most resistent to treatment. If someone has GI disease early, we intensify treatment early.

We do a number of clinical trials here, and we've done a lot of work

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with biomarkers that will predict outcomes early on so we can tell which patients are going to be -- get into trouble or not. So we run a lot of GVHD through clinical trials for acute GVHD.

Chronic GVHD there are fewer clinical trials at the moment. I would say less than half of the patients respond completely to steroids. Chronic GVHD is starting to be a little less prevalent now that people are using posttransplant Cytoxan as part of the GVHD prophylaxis regimen, but it's still occurring.

And some of the patients I use with ibrutinib -- I use ibrutinib for. Others I use ruxolitinib for if there isn't a trial that is ongoing. And sometimes one of my -- in my practice I like extracorporeal photopheresis, particularly for patients with skin disease.

The problem with ECP is that the machines are often a great limiting step. You've got to have patients come several times, two to three times a week,

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and sometimes the machine isn't available. So that is something of an issue with ECP.

But that's, in general, very quickly, how I manage it. I'm sure we'll go into some greater detail a little later on.

MS. MERLE: Great. And Dr. Gutman.

DR. GUTMAN: So I -- sure. Sure. I think -- I generally agree with Dr. Ferrara, and he's certainly a giant in the field of GVHD.

I think a couple little points that I would make, number one for me, again, I think always the first step in trying to deal with GVHD is certainly trying to avoid it up front.

And I think some changes in prophylaxis are influencing that, at least, certainly as Dr. Ferrara mentioned, with respect to chronic GVHD, which I do think has implications for future thoughts.

With respect to acute graft-versus-host disease, I think one of

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the great challenges with GVHD, which I'm sure we'll explore also, and makes, I think, talking about it difficult is I think that there are a lot of -- there are a lot of things about it that have a degree of subjectivity to it.

And though we're working hard, I think, to be as standardized as we can about how we speak about it, I think different folks can have slightly different takes on things.

With respect to acute GVHD, I think that -- I believe in my experience in the way we approach this we see a lot of what we would call acute grade 2A or grade 2 GVHD, which is really sort of a nausea/vomiting picture that may or may not be called acute GVHD by everybody, may or may not be biopsied by everybody, but I think that's the most common presentation that we see.

And because we're maybe quicker to call it -- to call acute grade 2 GVHD than some might be, I think I would say

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that all comers we see more responsiveness to steroids. Whether we're really treating a GVHD picture or not, not totally sure.

But I would say it's more on the order of 60 to 70 percent of our patients who the majority of whom are this sort of grade 2 that respond quickly to steroids, and we give them a taper of drugs called beclomethasone or budesonide, and they do quite well.

But then maybe on the order of 30 percent or so to 40 percent, especially now that we have some more agents to use, I would say are a little more steroid refractory.

And for that population I think for the acute population ruxolitinib and/or photopheresis are our primary go-to agents with considerations of the details of the patients.

And then again with respect to chronic GVHD, here again what's a bit unique about our center is our emphasis on cord blood transplantation, which we do

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primarily to minimize issues with chronic GVHD, but posttransplant cyclophosphamide in other centers is clearly influencing this issue also.

And so I would say that all comers at our center, because we do so many cord blood transplants, we probably see only on the order of about 30 percent or so that have chronic GVHD, 30 to 40, and only about 15 to 20 who have a more severe form that doesn't respond fairly well to some steroids.

And then again I would say our main go-to agents in the chronic space right now are primarily ruxolitinib and photopheresis, a little less enthusiastic about ibrutinib, but and then a variety of agents that I know we'll talk about today do have some clinical trial stuff going on also.

DR. FERRARA: So if I may, I think Dr. Gutman makes some excellent points. Let me just say that overall acute GVHD, particularly in its early phases, may

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have -- may look a little different.

And particularly after cord blood transplant, as Dr. Gutman says, you get this kind of gray zone. You're not really sure whether it's GVHD or not most of the time, particularly after cord blood transplant because the symptoms are perhaps a little less crisply defined, and you wind up having a different sense of what actually counts as grade 2 or greater.

Having said that, we do very few cord blood transplants here. And in fact in general I would say that the number of cord blood transplants is decreasing when you look at big databases like the Center for International Bone Marrow Transplant Research or the National Marrow Donor Program. You know, the number of haploidentical transplants and the use of posttransplant cyclophosphamide has increased overall.

So I completely agree with Dr. Gutman, but I do think that the cord blood experience may be a little bit sort

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of skewed to one end. But definitely you would have some reduction in graft-versus-host disease after cord blood transplants.

DR. GUTMAN: Yes. And I just add too, I think -- I don't want to pretend that I expect most centers are doing nearly the cord bloods that we are, and we are looking at more and more haploidentical transplants, and I think our experience is a bit different probably than the general population.

But I do think I also get the exposure of the general population the way that I can speak about it meaningfully for sure too, so...

MS. MERLE: Absolutely. Awesome. Maybe let's focus a little bit, you know, first on the chronic setting. I mean, I know you were both discussing kind of some of the changes and the trends that we're seeing.

What do you expect sort of on a go-forward basis in terms of the

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presentation and frequency of chronic graft-versus-host just in terms of, you know, the proportion that comes from progression from acute versus the proportion that sort of occurs spontaneously without acute graft-versus-host disease?

And then, I guess, in these patients that don't respond to steroids, you know, if you could go into a little bit more detail on how you manage these patients, how you decide whether to use ruxolitinib, ibrutinib and, you know, what, I guess, you know, is top of mind as you're treating these patients.

DR. FERRARA: Right. Well, I'll go first. So chronic graft-versus-host disease can be what we call de novo, which means that it never had acute before.

It can be quiescent, which means the patient had acute, we treated it with steroids, all of the acute went away, and then at some point months later chronic

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develops.

And then it can be progressive. So you get acute, you treat the acute, it doesn't respond completely, and then chronic develops on top of the acute. That progressive form of the disease is the most problematic. It's what kills our patients, and it's the least responsive to treatment.

So if someone gets progressive chronic, that means -- often those patients are already on steroids, and as soon as -- they may already be on a second agent because they haven't actually responded yet to therapy. So that therapy might actually be ruxolitinib, or it might be ECP, or it might be something else.

So -- but if you then develop chronic, you're going to need something in addition. So if a patient is on steroids and ruxolitinib and has not completely responded and now develops chronic, you're not going to use ruxolitinib. You may actually stop the ruxolitinib depending on what happens and switch to another agent.

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That's one of the issues in chronic.

There are -- if you look at the guidelines from the National Cancer Center Network where they've actually now got specific hematopoietic cell transplant guidelines, when you look at steroid-resistent chronic, there are something like 17 different -- at least a dozen different medicines.

And they say not one of them, including ruxolitinib and ibrutinib, not one of them can be recommended over another generally. It depends on the patient. It depends on their circumstance.

And what that says is that there's still a big unmet medical need in chronic GVHD, particularly steroid-resistent chronic GVHD or this progressive GVHD that has not responded completely. So for someone who's -- so let's put that to the side for a second just to say that there's still a big unmet medical need.

If someone, for example, has --

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by the way, the de novo in my experience is the easiest to treat. If they've never had GVHD and now they get some chronic, usually the large majority of those patients actually respond to steroids. And the quiescent, it's maybe a half, maybe a little less than that.

It depends on what -- there are two kinds of problems in chronic. There are the inflammatory changes, so you get inflammatory changes in the mouth or in the skin, and then there are the fibrotic changes where you get sclerodermatous skin and when you get lung disease.

Those fibrotic changes are the ones that are the most devastating, that are the most difficult to treat, and where we want -- where we're in desperate need of new agents. In my experience ibrutinib is not good for the sclerotic or fibrotic kind of disease.

It is maybe a little more than half of the time good for what we call hot and red, you know, a skin rash, a red skin

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rash or a mouth that's got some inflammatory changes. But outside of that I have not found it particularly useful.

And so, for example, if a patient of mine is starting to get sclerotic skin disease, that's, for example, where I really push to get them extracorporeal photopheresis because I don't think that ibrutinib is going to work.

For in terms of ruxolitinib in terms of the chronic GVHD, I do use it, but it's not my first choice. And part of the problem is that GVHD and steroids are very immunosuppressive. These patients have -- are at very high infectious risk.

And ruxolitinib is -- can be myelosuppressive. It can actually drop counts, and it can also be immunosuppressive. And so if I'm really worried about a patient who's had, for example, multiple viral infections or bacterial infections, I tend to stay away from ruxolitinib just because I'm worried

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about its immunosuppressive effects.

Let me -- I'll stop there and hand it over to Dr. Gutman.

DR. GUTMAN: Thanks. I think -- I certainly agree with Dr. Ferrara with respect to sort of the definitions around chronic GVHD and I think the forms of it that might be most difficult to treat.

I think in thinking about the approach to chronic GVHD and one way that I like to kind of break it down and think about it, really the paradigm I think for any GVHD is largely (unintelligible) at this point but particularly I think with respect to chronic the first-line treatment tends to be steroids.

And I think we might be making inroads now into maybe not having first-line treatment be steroids or be steroids plus something because steroids are so toxic.

But for that portion of patients the traditional steroid-resistent

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refractory group in whom steroids don't work up front, very challenging disease, very clearly a very significant unmet need.

And I think we've got a laundry list of agents of probably relatively comparable efficacy, and we're not great at predicting for any given patient who's going to respond and who's not, and so there's a real art to it.

But sort of the three main operating principles that I think I try and think about given those realities are, number one, what is the toxicity of any second-line therapy going to be in terms of its potential medical toxicity, number two, what is the financial toxicity to the patient going to look like because that's a major potential issue, and, number three, what are the logistical considerations around the therapy.

And so many of our historic agents with respect to medical toxicity, the immunosuppressive quality of them is very profound. Steroids have a laundry

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list of issues. But the immunosuppressive quality of many second-line therapies, as Dr. Ferrara mentioned, is a major concern in these very vulnerable patients.

With respect to the financial issues, enormous heterogeneity in our healthcare system about access to these potentially very expensive medications, and that can be very, very variable depending on the details of a particular patient's insurance and impacts access to these medicines.

And then in terms of logistics, as Dr. Ferrara also mentioned, I think many of us like ECP for its relatively favorable medical toxicity profile, but its logistics are challenging because it has to be done at a center that can do it. And in a place like Colorado we have a very large catchment area and it can't be done anywhere besides Denver. That can be a major issue. Some medications can be IV versus oral, which can have some impact.

But those are factors that I

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think are very important to be considering in the context of evaluating any new therapy and how I think about things for any individual patient, and that might impact, you know, the decision between rux, ibrutinib, ECP, or some other agent.

MS. MERLE: Got it. That was very helpful. And just real quick before we go further, just a logistical question. Can you remind us what proportion of your chronic GVHD cases are de novo/quiescent versus progressive?

DR. FERRARA: Oh, boy. That's -- that's a little hard to say, but I'm going to say 20 percent are progressive, 30 to a third of them are -- maybe 40 percent even are quiescent, so they've responded and now it's come back, and then about 30 percent are or a third are de novo.

And the reason I'm hesitating there is sometimes the progressive versus the quiescent, you know, we're tapering steroids because we want to get rid of the

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steroids, and if you taper and then it comes and you've had a complete response and now you've started with chronic, is that actually quiescent or is it progressive because they wind up with steroid-dependent disease.

So that's why I was a little -- hesitating a little bit there. But, you know, it's something in that proportion.

MS. MERLE: Got it. That's helpful.

Dr. Gutman, is this consistent with what you see?

DR. GUTMAN: Yeah, I would agree. I think one other point that could be made also, though, is there's also an entity that, again, I think when we get into the reality of looking at these patients can be a little bit of a challenging one to perhaps define.

But I think -- historically speaking graft-versus-host disease was characterized historically as acute if it was within 100 days of the transplant and

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chronic if it was after 100 days.

And I think we have recognized now that there's probably pathophysiology rather than time frame that should be defining this, although we're still not great at it.

And then there's this entity also of late acute graft-versus-host disease that sort of has characteristics that are more consistent with acute and not chronic but can develop late after the transplant.

And whether it behaves exactly like acute or maybe has a little chronic to it or there's some overlap, it's a point that I just put out there as being out there in the ether of consideration, but there are a portion of patients that I think fit into that box too.

But overall with respect to quiescent, de novo, I think the numbers Dr. Ferrara quotes are probably similar to what I see.

DR. FERRARA: Yes. And just

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since it's a new term, this overlap, which is acute and then chronic and then it's usually before day 100, I kind of think of that as early, myself, biologically as early progressive.

And in my own practice I'm fairly aggressive in treating that because it means that the immune system control is poor.

MS. MERLE: That's helpful. I mean, I think it's interesting from sort of a severity perspective the, you know, high-unmet-need refractory chronic GVHD populations seems to be largely coming from patients, if I'm interpreting your comments correctly, that have already had acute.

So if we're looking at, like, front line verses second line, it seems like by the time most of the patients are presenting as severe chronic versus graft-versus-host, they've already had multiple lines of therapy, so in reality it's second line plus, but really it's functionally the front line.

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I see Dr. Ferrara nodding, so I assume I didn't get that wrong.

So I guess I want to talk about treatment in that setting where you're like the guidelines have 17 different recommendations, there's no clear definition of what should be used.

You know, curious your perspective on treating that population and in particular your thoughts on the recent KD025 data and how you think it will be used in the patient population and how you'll decide between KD025, ruxolitinib, ibrutinib, and, I guess, what you think will happen assuming it becomes FDA approved.

DR. FERRARA: Well, I would be astonished if it's not FDA approved.

MS. MERLE: I would too.

DR. FERRARA: There's every indication that it will be. We've been hearing about this now actually for a couple of years.

And one of the things that you

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might not have seen, but the accrual to this trial was really quite rapid. There was a lot of enthusiasm out in the transplant community for the mechanism of action for the drug.

And you can often tell -- I think you can, having lived in a clinical trial space, you can tell, particularly in these open label phase twos, you can tell how well something is working by the -- after the first, you know, several months by whether the accrual picks up or not.

And this really went up very fast, which meant that both physicians -- physicians felt very comfortable entering their patients onto the clinical trial and treating them with this new agent. And now the top line results look good. They've had high overall response rates, which is, of course, good.

The other things that I look for in this -- look for in this trial were the duration of the response, how many patients, you know, did they have this

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maximal response for at least several months.

Sometimes, you know, you can get, particularly in a chronic disease, get an improvement for a short period of time. And short here might mean a month or six weeks. But is it still working four months later, five months later, six months later? And at least half of the patients, as I remember, had a response for at least four to five months. So that was good.

You didn't see any overt toxicities. This is a pretty fragile population to start with, so to have -- you know, if you saw a toxicity signal, that would be a big red flag because they've already, you know, because the baseline is so high. But they didn't see that.

And then one of the things that I always ask about is, as you've heard, we want to reduce steroids in our patients because the steroids are so problematic in terms of their long-term toxicities. So how many patients could effectively have

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their steroids reduced?

And there was -- I think it was something like about 20 percent could actually have a complete reduction in steroids and 60 percent where there was a 60 percent median overall reduction, and so that was very good news.

And then, finally, there's a hint that this drug may work for some of that fibrotic disease. So there were at least some partial lung responses that we saw in -- and I call it KD025. (unintelligible). I don't even know how to pronounce the name because I never sort of used the treatment. But, anyway, I think that that's also a very positive sign.

MS. MERLE: Got it. And, I mean, I guess, curious as well, Dr. Gutman, but if you could comment on, like, okay, so, you know, if you have this at your fingertips to prescribe to your patients tomorrow, I mean, how would you decide in that proportion seems like kind of anywhere from 25 to 50 percent of the chronic GVHD

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that end up getting this sort of progressive hard-to-treat sclerotic type of the disease, how would you decide between rux, ibrutinib, KD025, ECP, and I guess what you think the ultimate proportion will be that get KD025 versus the other treatments.

DR. GUTMAN: Right. And I would say up front our center has actually not been participating in this trial, so I don't have personal hands-on experience or feel for this drug yet, and so, you know, I think maybe that gives me less bias.

But I think the data that I'm seeing about it I think is certainly looking very appealing to me in the sense that it's really kind of ticking a lot of those boxes that I had talked about in that the efficacy data looks I would say as good as any GVHD efficacy data that we've seen.

The side effect toxicity profile looks very, very minimal, and the ease of administration looks very good.

I mean, the financial issue I

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can't necessarily speak to, but I will certainly say that an FDA-approved agent is always, I think, on the margins the easier thing to get our hands on than a nonFDA-approved agent in this space where we very often are dealing with drugs that don't have approvals, so that's probably a favorable thing there.

The one thing that I would sort of say that I think is another universal truth of the history of GVHD and GVHD therapy that I think at least gives me just a grain of salt in thinking about everything is that one of the great challenges that we've had with GVHD therapy for lots of different reasons, including, I think, challenges of just standardization of assessments and logistical issues, et cetera, is that to do very well-conducted trials where we are truly comparing things to get a sense of how well they work has been a very significant issue.

I mean, I know we got a little information about the itacitinib trial that

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was a phase 3 randomized trial that we could look at, and I think we have to usually start with these -- we very often start with these phase 2 studies or studies where we're kind of looking at investigator assessment of response to a drug.

But I think the gold standard for really understanding how well things work is generally going to be a randomized trial where we're -- and I think we're now maybe getting to a place in GVHD where we have enough agents that might have efficacy that we could start thinking about that in more meaningful ways.

But I think there's a long history in GVHD studies of phase 2 studies looking quite promising and when further efforts are undertaken to maybe more robustly or rigorously study the drug, their efficacy may not be quite as high as it appears up front.

But with that caveat, I think that everything that I've seen about this drug looks very appealing. And to my mind,

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I think that it would very quickly be a drug that I would be using as a first-line therapy in steroid-resistent refractory patients just because I think that there are inadequacies in all these other therapies, and I would very quickly be going to it if patients weren't responding to my typical algorithm.

MS. MERLE: Got it. That's helpful. And I know that, I guess, currently in the chronic GVHD setting, you know, ruxolitinib is not approved, so any use there would be off label.

But curious, you know, with the REACH3 study ongoing, and I'm sure Alethia, who covers Incyte, has more questions on that as well, but curious your perspective on the ongoing REACH3 study, which, you know, the (unintelligible) for the second half of this year, how this would potentially impact your usage of KD025, assuming it's approved.

DR. FERRARA: Well, you know, it would have to -- so we've got some

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experience with ruxolitinib in chronic, so in some ways it's already known. We would be very interested in, of course, seeing the REACH trial.

To my mind, though, it would have to be extremely -- it wouldn't be just a primary end point that was reached. You know, how good is it in the long term?

So, for example, in the REACH2 study, which has been published, and, now, that was acute graft-versus-host disease, they reached their primary end point. That was fine. But when you look in the supplementary data, six months after the treatment there are no more patients alive who got the ruxolitinib than the other treatments.

So they got their response, but then there was some cost, you know, to the treatment or whatever. And what we want at the end of the day is more of our patients alive.

So the fact that you use a new treatment, you get a response, but then

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they die of something else, that doesn't really make you sort of -- doesn't make me rush to that treatment. It says, okay, I've got that somewhere in my, you know, sort of black bag.

But since I've already got some experience with rux and since we've seen how that works on the acute side, it would have to be really extremely good to, I think, sort of change people's opinions from what their current practices are.

Now, Dr. Gutman makes an excellent point. You know, if it's FDA approved, you're not fighting with the insurance companies, it's not the patients having big out-of-pocket costs, and that is definitely a point in any drug that is FDA approved.

MS. YOUNG: Can I just ask you guys both a question about ruxolitinib in general? Can you talk about the percentage of patients that you're kind of using rux in for acute and chronic, please?

DR. FERRARA: I would say

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for -- well, my firm first choice for any patient who's got steroid-resistent acute is a clinical trial. If there's no clinical trial available, I probably for those patients, I probably use rux -- slightly less than half the time I'll try it.

For chronic GVHD patients I, you know, I think it's about -- it's similar. It's maybe -- it's not more than half. It's more than a quarter, but not more than half.

MS. YOUNG: Dr. Gutman?

DR. GUTMAN: Yeah. I would say we maybe use a little bit more of it. It's probably our first -- in the chronic setting for steroid-resistent refractory it's probably our go-to agent in the majority of patients, maybe 70, 75 percent or so, with the balance primarily being photopheresis and maybe some ibrutinib.

On the acute settings I think one of the things that I'm a little concerned about with rux, and I don't know

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if Dr. Ferrera has any thoughts, the worst chronic -- the worst acute GVHD patients are the ones who have very bad gut graft-versus-host disease, and their GI tracts aren't working well at all.

And we have a little bit of concern about whether this oral agent is going to be able to be absorbed in the setting of the very sick acute gut graft-versus-host disease patients, and so that gives us a little pause in the patient population in whom I think the issue is most serious.

Now, that's a small proportion of our whole for sure. But we may use a little bit more photopheresis in that setting over ruxolitinib. And we still do, although we don't -- we don't have an extraordinary algorithm around it, you know, we do use a little bit of TNF-alpha inhibitor in that population also.

And certainly, I mean, it should go without saying that clinical trials are our first choice for these

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populations, absolutely.
MS. YOUNG: So what percentage of the population have a gut, kind of gut, major severe gut involvement that would restrict you from using ruxolitinib? My sense was like it was, like, under 5 percent. Maybe I'm mistaken.
DR. FERRARA: Oh, it's higher than that. I would say 10 to 15.
MS. YOUNG: Okay.
DR. GUTMAN: Yeah. I would put it at about 10 in my --
MS. YOUNG: Okay. About 10. Yeah. Okay.
And then I have a question here, I think, from the Q and A. I'll just ask it. And it's if ruxolitinib fails the phase 3 chronic trial versus standard of care, how will you use rux without a label? So you are using rux without a label right now, so kind of interesting.
DR. FERRARA: Well, so do you -- if we've got -- if we've got two drugs that have labels and rux doesn't get

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a label, it's not going to be used at all or very rarely because it's got -- we know the downsides and it doesn't have a big upside.
So I think it's going to be -- I would think it's going to be very -- people will be hard-pressed to use it if REACH3 fails.
DR. GUTMAN: I think it would obviously be concerning if the trial outcomes didn't look good. I think, again, though, there may be hemming and hawing in discussion of trial design and details as to exactly why results might have come out the way they might have.
My personal feeling, again, with ibrutinib versus rux, and, again, this is just sort of, again, personal sentiment, and I -- it's something I sort of heard from others, but I don't talk to tons of people around it, is that I haven't been overwhelmingly impressed with ibrutinib as a GVHD agent.
I know Dr. Ferrara was talking

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about scenarios in which it might be more useful than others, and I think the challenging scenarios are the challenging scenarios.
But I also do feel, my personal experience, that ibrutinib has got a little bit more of a toxicity profile associated with it in terms of patients just sort of feeling poorly, some nausea, skin stuff. We see a lot of heart stuff with it, atrial fibrillation, more than I think I might have expected.
But certainly if REACH3 looks terrible, I think it might be hard on ruxolitinib.
MS. YOUNG: Yeah. Sorry. Go ahead, Louise, or whoever was talking.
MS. CHEN: Oh, that was Ellie. Go ahead.
MS. YOUNG: Sorry about that.
MS. MERLE: No, go ahead.
MS. CHEN: All right, guys. I'm going to hop in there, then, since you guys don't have additional questions for

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now.
So I wanted to ask you about a company called Mesoblast. They have a drug called Ryoncil, and it has shown some good data. And I'm curious if you could run through that data with us and let us know what you think of the prospects of this product if it actually gets approved. They've got a PDUFA date coming up in September.
DR. FERRARA: Right. So Ryoncil, which is essentially a mesenchymal stromal cell or a mesenchymal stem cell, you know, in some ways it's very interesting. This idea has been around. It was -- the concept was very popular about ten years ago.
There were -- but then there was at least one phase 3 trial that failed. So, you know, it didn't work. So it's got that fairly significant baggage to it.
Now, they say that they've made some adjustments, and the data that I've seen, they've now got a -- so in children

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it does seem to work, at least in patients who have bad gut disease. So we talked about gut disease before. Bad gut disease is bad, you know, like fatal bad.

And in a trial where they had, you know, over 50 patients, they had -- what's impressive is that they had not only a high response rate, which was 70 percent, but they had a very good survival three months later, as well as some of the things that you would expect like tapering steroids, which would be very important.

So that phase 2 data looks very good. It has -- it does have the problem that it's phase 2, it's not phase 3. It's got this additional problem that previous phase 3 studies have failed. So, you know, how is this one better? And so you have to take that into account.

And then there's just a third issue, which is the mechanism of action of this is -- seems to be multiple. You can't -- this isn't like a drug. It's a cellular therapy. But when -- in the

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animal models when they did this, well, where are the cells going and what precisely are they doing?

The data weren't particularly clear, so it's a little bit fuzzy around some what we would have called the harder science, and now you've got -- and now you've got this previous phase 3 that didn't work. Now you've got a really strong phase 2, but is that the luck of small numbers? We'll have to -- we'll have to see whether the FDA will approve it.

But it's my -- since I trained as a pediatrician and I know a lot of pediatric colleagues, they would certainly use it if it's FDA approved. Let's put it that way.

And, you know, pediatric studies are hard to do because there are even fewer patients compared to the adult patients. It's about only 20 percent of transplants are in pediatrics. So but it did -- they did manage to get a 50-patient trial, which for a pediatric population is

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actually fairly large.

So let me stop there.

MS. CHEN: Dr. Gutman, did you have any thoughts?

DR. GUTMAN: You know, I guess I would say as an adult-trained person, I think this notion of this particular product or a permutation of it and mesenchymal stem cells in general, it's certainly been around for a long time, and I don't think we've sort of seen the home runs emerge yet.

And I think that they're, to my mind, again, just sort of with my knowledge, there is a large stigma attached to this agent, I would say on the basis of it failing in a real randomized phase 3 trial.

Again, there are always the details of trial design, but this was only just published in 2020 in our bone marrow transplant journal, the long-term results of the phase 3 study that included adults and kids, and there were secondary

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therapies that also had to be involved. So there are some issues.

But I think it points -- that was a randomized trial where you're really going to get an objective look at the data, not just the interpretation of individual people, and it just, the benefit wasn't there.

And I understand through my review of the literature, I think, and from my knowledge of my pediatric colleagues, you know, that for whatever reason that the data has been most positive in that pediatric population with the very bad disease, maybe it's very bad disease, period, but it emerges most strongly in the pediatric population, I think -- as an adult doctor I think adult doctors would be somewhat wary of something that only seems to work in pediatric patients.

And I don't know whether that would have anything unique to do with the population or not, but I think the market is obviously considerably larger in the

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adult population, and I think it's a therapy that probably has an uphill battle to gain traction in that space, especially considering the alternative options that are out there right now.

And just kind of looking through the material that you had sent about it, I think it's kind of odd in presenting a balanced picture of this that, like, there's no discussion of a negative phase 3 trial or anything like that, that it's just sort of it feels like it's putting a lot of positive spin on the pediatric experience.

But, again, it's also, it's sort of not -- it's historical controls and comparisons, which is always something to be very wary of, particularly against the backdrop of the alternative emerging therapy.

That said, I think that these patients who we do have, who are very sick and who are not responding to options, we are desperate for options, and if there is

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an approved agent available, even if it's approved for pediatric patients, I think that with a bad acute GVHD patient, I would probably be looking for it off label before I move to some of the more traditional extremely immunosuppressive therapeutics.

But I think overall I'm a little bit dubious about its overall potential.

MS. CHEN: Okay. Can I follow up really quickly here? So I do know that in the data they showed good efficacy in gut and liver, and you had mentioned the interesting point on the gut side. What about the liver side? Is that important to you?

And then the second question I have was just on the grade of severity that you saw of the patients that were involved in the trials versus other trials that are out there for GVHD.

DR. FERRARA: So a couple of things. Isolated liver is vanishingly rare. So the way the physiology works is

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that the liver is kind of downstream from the gut, so if you've got bad gut, since the liver is a big filter and since we don't often biopsy it and the measurements are crude, the fact that the gut -- that the livers got better, that they were sick and that they got better when the guts got better doesn't surprise me, and it's just -- it didn't make much of an impression. So that was number one.

The patients were sick, but the problem is, if you'll notice, the data that they show for I think it was grades 3 and 4 and grades C and D, that paper was published, was published in 2005, and that means that the data of those patients is between 18 and 20 years old.

So that's -- I don't know what -- 3 to 4s these days don't have disease that is that bad. You don't see -- all of those patients died. And grade 4 is still bad disease, but it's not 100 percent fatal. So I think that that's another grain of salt to put in there.

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And just one final thing. Dr. Gutman's absolutely right. In general GVHD occurs less frequently in children and is more easy to treat in children in general.

So when you see something that works in kids, many of my adult, you know, adult physician colleagues will say, you know, there may be something special about kids there and mesenchymal stem cells in kids and their healing properties or the resilience of their guts, whatever.

So I think that the -- it is going to have, I think, a little bit more of an uphill climb, even if it is approved for children.

MS. CHEN: Dr. Gutman, did you have anything to add?

DR. GUTMAN: No. I agree with all those things. I would say too, though, with respect to acute graft-versus-host disease of the liver, again, in my experience it just in this day and age doesn't tend to be a tremendously

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significant issue for us.
We see a lot of, I think, GVHD, chronic GVHD of the liver manifest by we look at the liver a couple of different ways by what we could call kind of a transaminitis and some sort of an angry liver.
But the classic liver acute graft-versus-host disease that I think probably even before my time was a very fundamental issue, we just don't tend to see it very much these days.
Whether that's a function of some other things like Ursodiol or Actigall and conditioning regimen stuff that we look at, I just don't consider liver GVHD in my experience, acute liver GVHD to be a prominent issue.
MS. CHEN: Okay. One last question from me is just the side effect profile that you saw in peds for the study, what did you think of it?
DR. FERRARA: Okay. I mean, I didn't see anything. Those patients are so

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sick that it's really hard to see a separate profile. Again, the baseline is so high. So I wouldn't -- I didn't see anything. I didn't see a red flag for sure.
DR. GUTMAN: I agree. And, I mean, I think, you know, a theoretical benefit of this therapy is that it would be one that hopefully wouldn't add a ton of toxicity, although perhaps have some immunosuppressive qualities. But I didn't see anything overwhelmingly concerning to my mind either.
MS. CHEN: Okay. I'll turn it over back to my colleagues.
MS. YOUNG: Go ahead.
MS. MERLE: Just two quick ones, if I may. Just first quickly from the inbox, can you comment on long-term trends in GVHD incidence and prevalence given long-term transplant trends and CAR Ts? So basically what the percent change will be, say, in five years, ten years, in terms of sort of the incidence and

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prevalence of GVHD given perhaps maybe, you know, what you're seeing in terms of transplant trends and usage of CAR T therapies.
DR. FERRARA: Well, so you're speaking to two transplanters. We may be slightly biased here. But my sense of CAR Ts is that they are going to be most useful as a bridge to transplant.
You know, there was this initial exuberant enthusiasm for, you know, CAR Ts are going to replace transplant, and then the relapses started happening. And once you get -- and transplanting someone in relapse is not a good idea because those patients have way more toxicity and way more -- way worse survival.
So I think that as currently constituted the CAR Ts are an excellent bridge to transplant. You use them, you get a nice, a pretty good remission. You then go to transplant and you cure the patient. Might it be useful for some who could not ever get transplants, you know,

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some 80-year-old, potentially? Possibly.
But the CAR Ts had their own cytokine release syndromes and there are other toxicities. It's not a walk in the park. So I don't see personally that we're going to really replace transplant with CAR T therapy the way some people were talking about that a couple of years ago.
DR. GUTMAN: And so the question --
MS. MERLE: Got it.
DR. GUTMAN: Sorry. The question, was it just sort of long-term trends in transplant numbers with respect to the future?
MS. MERLE: I guess it's the usage of CAR T and sort of the trends that you're seeing today in your practice. I mean, I guess if you see, you know, just to throw out a number, 100 transplants a year, 100 cases of GVHD a year, you know, what do you expect that number to be, say, five years from now given the usage and trends that you're seeing with CAR T.

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DR. GUTMAN: Right. Well, I mean, I think also the issue should be extended beyond simply CAR T.

I mean, you know, I think most transplanters would agree and certainly our nontransplant colleagues for all the diseases for which we do transplants it would be wonderful to have a much simpler alternative potentially curative therapy.

And I do think that I wouldn't just be talking about CAR T because, I mean, right now CAR T is really about kind of pediatric ALL and it has some space in non-Hodgkin's lymphoma, but the vast majority of stem cell -- of allogeneic stem cell transplants that we do are more for myeloid malignancies, and I think that we're not close to a CAR T therapeutic option there that doesn't involve transplant.

But concurrently we are certainly working on other therapies to improve outcomes for these diseases, and, you know, for example, at our center we're

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very versed on the use of a new pill called venetoclax and the use of AML in conjunction with other therapies and probably extending into MDS.

And so we're starting to consider who we transplant and who we don't transplant with those diseases as we consider relative risks and benefits as outcomes and alternatives improve.

Against that backdrop, though, of course, we're improving outcomes with transplants and improving transplant-related issues, and I think we are making, you know, again, back to my first maybe original point, I think we're making important steps in, A, avoiding GVHD from ever happening, which would be a marked improvement for -- to overcome probably the biggest hurdle around allo transplant, and, B, you know, Dr. Ferrara has been a big leader around these biomarkers and getting much better tools to help deal with GVHD.

So I think that, you know, we

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will continue to have improvements on all fronts. I think the biggest -- the biggest mover on these issues and individual diseases is going to be the alternative therapeutics, not just CAR T, though, that may alter outcomes because you can see sort of piecemeal in disease after disease after disease for which we do these transplants how little bits of them are being taken off by alternative therapies.

So, you know, I think it's hard to say for sure, but I also do think that transplant is going to be around for a while yet for sure.

DR. FERRARA: You know, it's a little hard to know given that we're, you know, for a couple months we were in this COVID bubble where, you know, a lot of people wouldn't even come to the hospital. You know, in New York this was a major issue.

But I would say overall the numbers have, for transplant, have not decreased. If anything they continue to

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increase at about 3, 2 to 3 percent a year. So, you know, in five years are we going still have sort of an 8 to 10 percent increase of transplant?

I mean, I would be very surprised if we didn't continue to see a slow increase in the overall number of transplants, even with some of these additional therapies that tend to make the initial remissions longer and deeper.

But because the high-risk malignancies for which we use transplant are genetic diseases in which, you know, these very smart cancer cells mutate and figure out ways to become resistent to therapy, I think that we are actually likely to continue to see a steady, maybe slightly slower, but steady increases in transplant numbers, and therefore in the numbers that get some GVHD, although we'll hopefully be able to treat that toxicity and problem better.

MS. MERLE: Got it. That's very helpful. And just a last question

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just coming from the audience here. Can you talk a little bit more about what you expect the real-world duration will be for KD025 given there's not a lot of sort of treatment alternatives?

And I know you mentioned some aspects of the safety profile such as infection risk. So, you know, I mean, from a, you know, how-many-months-you'll-use-it perspective, any color on, you know, what you anticipate will happen in your practice would be helpful.

DR. FERRARA: So it's a chronic disease. A patient who's got -- who's getting steroids who needs a second-line therapy, the first thing I want to do, as long as those toxicities are manageable, the toxicities of the new therapy, is to get rid of the steroids.

So I would see someone who's let's say KD025 I would imagine it's going to be a minimum of four to six months, and it could be -- and it could be longer.

Many of these therapies when

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they're well tolerated are, particularly if they're oral therapies, are -- and you can reduce the steroid exposure -- and remember, chronic steroid exposure is not just infections. There's muscle wasting. There's diabetes. There are big bone problems.

So if I can really minimize those by keeping somebody on a nonsteroid therapy, I would do so. So I would imagine it's going to be, I would say many months. You know, maybe not longer than a year, but between six months and twelve months, I think that's likely to be the case.

MS. MERLE: And Dr. Gutman?

DR. GUTMAN: Yes. I would certainly agree. You know, I think, again, the management of these patients is very artful.

It is -- you know, you have to look at individual patients, but this is a chronic disease, and the vast majority of patients who end up with this disease who are steroid resistent, steroid refractory,

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are going the end up on GVHD therapy of some form or another for years and years and years.

And with a lot of these patients if we can achieve stability, and in my experience if we have them on a very small dose of prednisone and maybe a small dose of a calcineurin inhibitor, that might be kind of the best we can do.

And so the notion of being able to replace those therapies with something that is much less toxic as sort of the anchor for the longer term, I think it's the route I would be thinking about going.

But, you know, I think also it's one of these things where I think we probably have personal practice styles to some degree, and, you know, I want to get my hands on the drug and get some experience to see how it feels.

But I think, you know, I would guess that there's a lot of patients who aren't going to have complete responses to their underlying issues and all symptoms

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completely go away, and if you haven't achieved that goal then you're often hard-pressed get them off of that last little bit of immunosuppressive therapy -- or GVHD therapy, and this agent would be sort of the last line to me, from what I've seen.

MS. MERLE: Got it. Well, we're a little bit over on time, but I want to thank you guys so much for your perspective and joining us today. It was really helpful to hear your insight.

And thank you for everyone on the line for joining, and we look forward to speaking with you all soon. Thanks so much. Have a good day.

DR. FERRARA: Thanks. Bye.

DR. GUTMAN: Thank you.

MS. MERLE: Bye.

(End of recording.)

State of Delaware)
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County of New Castle)

C E R T I F I C A T E

I, Susan Arnold Yoder, Registered Professional Reporter and Notary Public, do hereby certify that the foregoing record, pages 1 to 61 inclusive, is a transcript of my stenographic notes taken from a video recording.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 17th day of July, 2020, at Wilmington.

Susan A. Yoder

SUSAN ARNOLD YODER, RPR, CRR

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