UNMC Chancellor Jeffrey P. Gold, MD: Hello. This is Dr. Jeff Gold, and I'm the Chancellor of the University of Nebraska Medical Center. And I want to welcome you to "Health Care Heart to Heart," providing insights into the medical and the scientific issues of the day. As you may know, I'm a recovering cardiothoracic surgeon, a longtime medical educator and a firm believer in the ability of science to change lives for the better.

My guest today is Dr. Sunil Hingorani, and as many of you may know, Dr. Hingorani is the director of the Pancreas Cancer Center of Excellence and has been here now almost a year and a half, right, Sunil, if I remember correctly.

Sunil Hingorani, MD: Correct.

Dr. Gold: And we were fortunate to get you to leave your incredibly successful position out on the West Coast in Seattle and join us as the director of our Pancreas Cancer Center. And I thought today, as we are just kicking off the beginning of November, which of course is Pancreas Cancer Awareness Month, that you can tell us how you got interested in this disease and a little bit about your background, because I know it's an amazing story.

Dr. Hingorani: Well, I appreciate that. It's a pleasure to be with you as always, and especially to have an opportunity to talk about this disease and all the wonderful things that are going on here at the University of Nebraska Medical Center and the (Fred & Pamela) Buffett Cancer Center. You're right in that this battle and this cancer is very personal for me and for my family. And that goes back to a time when I was just finishing my clinical training in oncology, and my father was diagnosed with metastatic pancreas cancer, and I had trained in gastrointestinal malignancies. I was actually doing research in a laboratory that studies the key mutation that drives pancreatic cancer. But this was the late 1990s, and frankly, we did not have any therapies, essentially at all, to even attempt to treat this disease. So it was an extraordinarily challenging, frustrating and ultimately futile attempt to try to impact the disease significantly. What I did learn from that is that a lot of being a good doctor and practicing the best medicine involves supportive care. So, focusing on things like nutrition, pain management, hydration, that actually had a lot more to do with improving my father's quality of life than any of the drugs. And we've tried to incorporate some of those lessons into what we're doing now.

Dr. Gold: Well, I think those life lessons, as tragic as they may be, are very high impact. And I think as you and I have spoken, you probably know my dad also lost his life, lost a battle with pancreas cancer. And again, although that was somewhat more recently, it was a very futile type of situation, as well. And I certainly also came to understand that there were many things that, as a practicing clinician for many years didn't seem too relevant to me, became really super relevant during that course. Let's talk a little bit about the disease itself, because I remember when I was a med student, there was about a 5%, five-year survival, which of course was back when the dinosaurs ruled the earth, and now there's about what, 11 or 12% five-year survival, so not much progress over all those years.

Dr. Hingorani: Nope, that's exactly right. On the one hand, I'm always happy to celebrate every additional life that we can save or that we can extend. But in the grand scheme of things, we have to do much, much better. And I think this shared passion that we have for this disease and connection contributes to what I think is a really radically new approach to how we study the disease, how we deliver care to our patients, and how we get the various stakeholders, the scientists, the clinicians, the support services, to engage with each other and interact in a more formal and structured way from the beginning. So, in terms of challenges for this disease, if cancer is the emperor of maladies…

Dr. Gold: As it is said.

Dr. Hingorani: As it has been said, then pancreas cancer is the emperor of emperors. It is truly outsized in terms of its mortality, the rapidity with which it can lead to demise, the debilitating symptoms that are associated with it, and the difficulty in detecting it early, early enough to intervene, and its ability to resist just about every therapy that we…

Dr. Gold: And as I understand it, one of the reasons that the survival rates are so bad is that, unlike many other cancers, which we've gotten much better at detecting -- through screening at early stages where you can intervene, and I think whether you're dealing with heart disease or mental health issues, whether you're dealing with cancer or who knows what else, the earlier you can detect it, the earlier you can intervene and get a better result -- not so much the case with pancreas cancer. I think during my days at Memorial Sloan Kettering, I remember one of my mentors used to say, “If the good Lord wanted us to operate on the pancreas, it probably would've been in a better place.”

Dr. Hingorani: I like that. I think that captures the truth and the essence of it. And actually, the location also leads to making it so difficult to detect. It's tucked underneath the stomach as you know, and deep against the spine. And pancreas cancer not only has no real localizing symptoms associated with it that can call attention to it, the symptoms it does create when there are symptoms at all, actually lead you away from the diagnosis rather than towards it. So for example, because the pancreas is up against the spine deep in the body, patients will sometimes present with low back pain. Now, that is probably one of the most common maladies, as you know, of anyone over the age of 40 years old. In fact, I have low back pain right now. Now, you certainly don't want to automatically go to the diagnosis of pancreas cancer if someone's having low back pain, because it's almost always musculoskeletal, and therefore it often gets treated with anti-inflammatory medicines, with ice, with physical therapy. And you lose a few months during that process before realizing that that's really not what the cause is. Other times, patients will have just a vague abdominal discomfort, which we almost always attribute to reflux, acid reflux…

Dr. Gold: Or eating too much or drinking too much.

Dr. Hingorani: Precisely. Those are much more common conditions. And there is also this tendency, when a physician tries a therapy or makes an intervention, this concept of the placebo effect, as you know, is very powerful. And so patients will feel a little bit better for a period of time before they feel worse again. And once again, we've lost a few critical months.

Dr. Gold: And then when you get to common bile duct obstruction and other types of later-stage invasion into the GI tract, that really is just a marker for later-stage disease, which makes it much harder to treat, and of course has a much worse outcome. So what's the philosophy now? Is it more focused on early detection? Is it focused more on better understanding the disease and how to penetrate it with the effective drugs? Or is it a combination?

Dr. Hingorani: I think it's both of those things. I think in terms of our understanding of the cancer over the last 10 to 15 years, there's truly been a revolution in how we think about how the tumor's made up, how it's constructed, and what aspects of it we want to try to attack, and what aspects we want to try to promote. And for the first 150 years of engaging systematically with this cancer and being aware of it as a cancer with a label, we actually had most of that understanding upside down. As just one example,

pancreas cancers resist virtually every drug we throw at it, even when those drugs have worked in the laboratory, killing cells as we grow them in a dish quite effectively. For almost all the other solid tumors we have, that's how we learned to come up with the regimens that we use in patients. It's some subset of the drugs that worked in a laboratory setting that end up working in patients. Well, the one cancer for which that's essentially been 0% success is pancreas cancer. And the simple fact is that the primary mechanism of resistance is very unique in this cancer.

Pancreas cancers decrease their blood supply as opposed to increasing them, which is what most solid tumors do so that they can continue to grow. So, there's a paradox here, and what we've come to realize is the first mechanism of resistance is that those drugs never got into the tumor. They never penetrated the very dense cement-like matrix or fortress, if you will, that the tumor constructs around itself, a fortress that we thought was the body's response to try to contain the cancer, and we now understand is actually being orchestrated by the cancer cell to shield itself and protect itself from the therapies we might try to treat it with.

Dr. Gold: Amazing. Well, and I think now that there's a better understanding of the “fortress,” as you describe it, it hopefully opens the door to things that can be done in the future. So, ladies and gentlemen, we're going to continue this conversation later in the month of November. We're going to bring Dr. Hingorani back, and we're going to talk about what you need to know about early diagnosis and screening and what he's working on to break down this fortress.