

The Latest on Vaccines, Cancer, and COVID-19

with Dr. Anna Komorowski

National Webinar Transcript

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Presented by:



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Melissa Rosen:

Hi, thank you for your patience. I hope everybody finds their way in. My name is Melissa Rosen. I'm the director of training and education at Sharsheret. And I want to thank you for joining Sharsheret tonight for an up to the minute presentation on vaccines, cancer and COVID 19 with Dr. Anna Komorowski. Before we begin, I just want to thank our sponsors for the program whose generosity allows us to continue to provide support and education to you and the community; Clovis Oncology, Merck, Seagen. And it's always great to work with our partner Northwell Health. This webinar is being recorded and will be posted onto our Sharsheret's website along with the transcript. As a reminder, participants' faces and names will not appear in the recording.

Melissa Rosen:

However, if you'd like to make yourself anonymous, now you can do so by shutting your video and changing your renaming yourself. You may have noticed that we have now muted everybody. Please keep yourself on mute throughout the call. And we actually recommend you keep your screen on speaker view, and this will enable you to see the presentation itself clearly. You can find this option in the upper right hand of your screen. We received many, many excellent questions for tonight's program, and I'm sure we'll continue to receive questions as the doctor shares this information, please do so through the chat function at the bottom of your screen. We will work to answer as many as possible and any questions that aren't answered will be answered within the days after the webinar. And so please wait for a follow-up email that includes additional answers if they weren't covered.

Melissa Rosen:

Finally, though, with regard to questions if yours is specific to your own situation, please consult with your own healthcare provider. As a reminder, we've been providing telehealth services to the breast and ovarian cancer communities for 20 years now. And I'm proud that during the past year and a half, we have not only continued to offer the support we always have, we've enhanced and increased support services and gotten creative about the ways we've been able to offer. As we move into the webinar itself, I want to remind you that Sharsheret is a national not-for-profit cancer support and education organization, and therefore does not provide any medical advice or perform any medical procedures. The information provided by Sharsheret is not a substitute for medical advice or treatment for a specific medical condition. You should not use this information to diagnose or treat a health problem and always seek the advice of your physician or qualified healthcare provider with any questions you might have regarding your specific condition.

Melissa Rosen:

Okay, let's get to it. We are so incredibly fortunate to have our speaker with us today. Dr. Anna Komorowski is a board certified expert in hematology and medical oncology with over 15 years of patient care and clinical research experience. She currently serves as the medical director of the Northwell Health Cancer Institute at Phelps Hospital. She's on the committee for the American Cancer Society and is an active member of the cancer committee for the American College of Surgeons Commission on Cancer. Dr. Komorowski obtained her medical degree at the Medical University of Warsaw in Poland and completed her internal medicine residency at Montefiore Medical Center, Moses Division, where she served as chief resident. She completed her fellowship in hematology and oncology at Our Lady of Mercy Medical Center in New York Medical College. And of course she has been named a top doctor in the New York Metro area in 2019 and 2020, and has been awarded the exceptional woman in medicine award as well. Dr. Komorowski, the field is yours. Welcome.

Dr. Anna Komorowski:

Hi Melissa. Thank you very much for such a warm introduction. And now let me see if we can share the slides. One second, give me one more I'm working on this. It's all the technical aspect that we became experts since we started the COVID pandemic. So can you see me? Good. Excellent. Thank you for such a great introduction and thank you for Sharsheret being Sharsheret supporting the community for our patients with breast cancer and ovarian cancer. And I have to tell you that you are one of the organizations that are detrimental to support our patients, especially in the COVID pandemic situation when we really need to reach to each other and help each other through different meanings, through technology and meeting each other from different areas of the country.

Dr. Anna Komorowski:

And so good evening to East Coast, good afternoon to West Coast and hello to everybody everywhere else. So let's start. Let me see if I can advance my slide. Can you see it, the second slide? Good. So this is our team and this is over a year ago. This is when we got shut down after opening the clinical trial for breast cancer with adjuvant use of aspirin. And on the right hand side you see Joanna who is... This was a year ago now she's pregnant and she's going to have a baby any day soon. Next to her is Dr. Katz, my junior colleague, who got engaged and she's getting married. Next to is Erica, nurse practitioner who actually became a nurse practitioner during this time and completed her training. And I'm on the left hand side holding the documented paper that when we are enrolling the patients instead of the clinical trial for breast cancer, we're enrolling the patients for convalescent plasma study with Mayo Clinic.

Dr. Anna Komorowski:

And so we were fighting for our patients and helping them in any way we can at the time and the life moved on. So where are we right now in the pandemic? We see that there is definitely decreased both mortality and morbidity. We see the decreased rate of hospitalizations. As I work right now for our local hospital, I don't see as many patients with COVID or barely right now, any. The new cases are an average in the entire country about 25,000 per day. So there is in the last 14 days, we see a 37% decrease of new diagnosis. We also have decreased risk in the surge currently. And the main goal that we have right now is to raise, to vaccinate as many patients as possible. And we're getting there, we vaccinate on average about three to four million people a day. And there's about almost 40% of the population in United States right now is fully vaccinated.

Dr. Anna Komorowski:

And I watch this number every day. As I was watching initially the number of the patients getting sick in the beginning of the country. Now I'm chewing up for the patients who are fully vaccinated and almost 50% receive at least one dose. What we're basically cheering for, we're cheering for the herd immunity. We want to get us together to the situation that we can have about 70 to 85% of the patient, of the population vaccinated or recover from the vaccine. What did we do to decrease the risk of the infection? Well, we did the modification of the treatments and we're going to talk specifically about the breast cancer. How did we change the treatment to help our patient and provide the care and not adversely affect the outcome? We shifted the treatments from the inpatient to outpatient is as often as we could and from the intravenous therapy to oral therapy in certain circumstances. We very early implemented universal masking. And we're going to talk about this a little bit more.

Dr. Anna Komorowski:

We, of course implemented the social distancing. We have like patches in the offices which say where are you should stand to really keep the distance of six feet. I reckon by now everybody knows exactly how far you have to be from the other person. We were asking our patients about their symptoms and if they had any symptoms, we follow them and made sure that they were tested for COVID-19. And the patients were coming to our infusion center. We were testing, basically everybody was coming for the infusion. Recently we don't test patients who were vaccinated already we just screen them for symptoms. And of course, telemedicine, we could see our patients in their homes and connect with them and talk about medical issues and address their needs at any time from the safety area for them and for us.

Dr. Anna Komorowski:

We had also in-home blood draws, and we implemented the prescription home delivery to minimize the exposure for our patients. We are in the amazing speed of putting the vaccines out for our community and for our society. What's important to understand, especially for cancer patients, is that none of the vaccines that are available on the market and have FDA approved are contained live virus, which means there are safe even for patients who are immunocompromised. And there is no contraindications for patients with being immunocompromised in the treatment, not to receive the vaccination.

Dr. Anna Komorowski:

There are two types of vaccine. There is a messenger RNA vaccine, which you have a small piece of RNA from the virus that actually represents the spike protein that is characteristic for COVID virus. There's Pfizer that is spaced 21 days, and it's right now already approved for age over 12. And there is Moderna, there's two doses spaced at 28 days and it's approved for the age over 18. The mRNA vaccines are 90% effective at preventing lab confirmed COVID-19 illness or severe infection. The second vaccine that had a little bit of a hiccup, but right now is completely also approved by FDA is recombinant, replication, incompetent adenovirus. What it means; we took out adenovirus that is not dangerous for us and our body's familiar with it and we put a piece of COVID virus there. So when the adenovirus is injected into us, it falls apart and then it exposes to the protein and the body can create antibodies and prepare for the actual infection.

Dr. Anna Komorowski:

And the advantage of J&J is just one dose is needed and it's 66% effective. Within that reality, probably that effectiveness is a little bit higher. And the number that we have is affected by the fact that virus was initially tested also in the South Africa, when the virus was a little bit different than the one that we have present here.

Dr. Anna Komorowski:

What are the facts to understand about the vaccine? First of all, the peak of the antibodies develops usually 14 days after second mRNA vaccine. So if we are talking that the first dose is given today, we are talking about three weeks for Pfizer. Three weeks later, we get second dose and two weeks later, at least we have a really... When our immune system is on to respond to the actual COVID virus. So five weeks for an mRNA vaccine, Pfizer and six weeks for the Moderna vaccine. And about 15 days after J&J single immunization. None of the vaccines, and this is when a lot of our patients have issues and concern is the fact that none of the vaccines target was started in immunocompromised patients, but except the Pfizer vaccine also allowed on the study to put the patients with underlying malignancy. But none of the

studies were really designed to follow up the patients that were immunocompromised or the patients with malignancy.

Dr. Anna Komorowski:

But overall, we know that the vaccines were safe and there was no major safety concern with an mRNA vaccine. There was a short time with J&J vaccine, adenovirus vaccine was put on hold because there was reports of the immune reaction that is similar to the reaction that we observe in the patient exposed to heparin, it's called heparin induced thrombocytopenia. So similar to was a vaccine induced thrombocytopenia, and this requires special management by the hematologist, by the specialist usually with hospitalization in the blood thinners. The mRNA vaccines were studied in over 70,000 participants and J&J vaccine was enrolled 44,000 patients half of them received the vaccine. So we're still starting to understand where we are in the patients with who are immunocompromised, how well the patient responded to the vaccine and how durable is the response? We don't have all the questions, but we do have some observations from the community and we're going to talk about it.

Dr. Anna Komorowski:

Side effects, common, well, local injection sites pain where the injection was done. I'm sorry, it's pain, fever, fatigue, headache. The symptoms usually last one to two days. And usually patients who are over age 55, they have a decreased severity of frequency of reactions. Although I also observed that patients were in the families, there was some genetic correlations. So let's say if the son got reaction, the father got reaction and they were phenotypically similar. So potentially there are certain part of the genetic that caused a different reaction. But the serious adverse effects were only observed in about half a percent, 1.5% in the mRNA vaccine and 0.7 in J&J vaccine.

Dr. Anna Komorowski:

Usually the vaccine, whenever they administered, the patients are watched for about 15 minutes following the injection. If the patient has history of allergic reaction or anaphylaxis, the monitoring is for 30 minutes. There is a potential risk of anaphylaxis and it's related to the presence of polyethylene glycol in the mRNA vaccine. And I'm going to show you which agents in the oncology contain polyethylene glycol. So if somebody is allergic to this particular agent, they should be aware to avoid an mRNA vaccine. The J&J vaccine Johnson & Johnson contains polysorbate. So allergic reaction is possible secondary to polysorbate. And again, it's not very common and I'll show you which agents are related to it. And if the patient had the allergic reaction to the mRNA vaccine, so Moderna, or Pfizer vaccine, the recommendation is to follow it up 20 days later with J&J vaccine.

Dr. Anna Komorowski:

And those are the medications that some of you may be familiar with because we use them in oncology. And one is the PEGylated cancer medicines, and includes Doxil which is used for gyn oncology setting. Or Neulasta which is the stimulator for growth factor; that has also the PEGylated component that allows for the medication to be released longer. And this may be correlating with the reaction to Pfizer and Moderna. And then polysorbate cancer medicine includes Abraxane, paclitaxel, Adriamycin, Aranesp, which is used to stimulate the blood cell production. Emend anti-nausea medication that we use very commonly in the breast cancer treatments. Doxil, Procrit, Taxol, paclitaxel, or Taxotere, docetaxel, and methotrexate. So for whoever has history of allergies or had a particular reaction to the medication, they should talk to their physician and seek their advice.

Melissa Rosen:

Dr. Komorowski, can I interrupt for one second? We've gotten a few questions. So if somebody is taking one of those medications, they shouldn't get that particular... So could you just explain that one more time?

Dr. Anna Komorowski:

No. This is only when somebody knows that they had allergic reaction to this particular agent. So if somebody had allergic reaction to Taxol which we commonly use in the patients with breast cancer, they shouldn't first talk to their oncologist and say, "I had this allergic reaction, should I go with J&J or should I actually consider more Pfizer?" So this is not that patients who are getting this particular treatment, have a reaction, it's if somebody has history of allergic reaction, because both of those agents contain those compounds that may cause allergic reaction.

Melissa Rosen:

Thank you for clarifying.

Dr. Anna Komorowski:

Sure. Bone marrow transplant and IVIG we are not going to spend too much time over this time at this topic, but we know that we try to spread the vaccination in post-transplant patients. And also, we usually don't recommend the delay in the patients who are on intravenous immunoglobulins. This is used for hypogammaglobulinemia or particular patients with certain subtypes of lymphatic system neoplasms like lymphoma leukemia. But we know that IVIG, since the immunoglobulins are collected from donors, if donors have antibodies and somebody gets the vaccine, it's possible that part of the vaccine may be neutralized by the antibodies in the immunoglobulins that are infused. So always talk also to your doctor and ask when to get the vaccine, I would not say that this is not safe to use the vaccine, but the vaccine may not be as effective.

Dr. Anna Komorowski:

But if somebody is on the monthly program on IVIG, which protects them from getting the infection, it may be not the best time to get the immunization, never. So maybe use it in the third week after the IVIG is administered and get the first shot and then a couple of few weeks later, get the second immunization. Well, if somebody gets infected between the doses, which happens, patients get the first vaccine a week later, they're cycling sick. They go for the testing, they're positive. Then we usually recommend that to administer the second dose, once symptoms have resolved. So somebody feels already better. And we usually call the isolation precautions are lifted and discontinued.

Dr. Anna Komorowski:

If somebody received the monoclonal antibodies on convalescent plasma, the recommendation is to delay vaccination for at least 90 days, because this is how long we know that there is an important level of antibodies in the serum which will neutralize the vaccine. So it's a wasted vaccine. We don't recommend this. So we said, wait, 90 days, if somebody received monoclonal antibodies for COVID. Very important point; there's something that you go to sleep and remember tomorrow morning, I want you to remember about this. The vaccine reduce the severity of COVID-19 disease and its complications, but data on prevention of primary infection, or even transmission from those vaccinated was not demonstrated. We know already somebody who was vaccinated if they're exposed to the virus, they may carry this in and share it. They may not show the signs of infection.

Dr. Anna Komorowski:

So whenever I get the question about wearing the mask, I say, "Use the common sense." If we are in the crowded area, or we are in the small close environments, stores, wear the mask. You don't have to worry if you're six feet away from some other person in the store with you, wear the mask, keep your distance, wear the mask. Of course, when we're on the home environment, we don't do it, when we meet with people, but we know that we're vaccinated, we should feel safer, definitely. But if somebody is truly immunocompromised and they have a lung infected condition, heart condition, diabetes, overweight, undergoing bone marrow transplant, I recommend keep the precautions, keep the mask, the distance, because even if somebody was vaccinated before they may carry the virus and they may still share it, although they're not symptomatic.

Dr. Anna Komorowski:

It's similar to the flu vaccine. Anybody who gets the flu vaccine, we know we are not a hundred percent protected, but potentially the flu vaccine decreases the severity of the infection. Now, what do we know about the cancer patients and how our knowledge evolve? We know that patients who have malignancies, they have a significantly increased risk for COVID-19 infection or worse outcome. But remember we pulled those patients from the patients who are undergoing the treatment for breast cancer, lymphoma, leukemia, multiple myeloma. So initially we're looking at those numbers together. So we have some new observations from the patients with breast cancer, and we're going to talk about this.

Dr. Anna Komorowski:

Then we know also the patients who are immunocompromised may have a prolonged viral shedding. I had a patient who had history of lymphoma immunocompromised who was infected with COVID and had an infection. This patient was showing the positive test for PCR for about three months. So we know that patients who are immunocompromised, they may shed the virus longer. We're not sure in how they are a shedders who are really high spreaders who are infecting everybody around week. I cannot tell you this yet, because we don't know about this with this. We're still learning the pandemic, but this is something that we should remember. We are concerned a little bit because we also see the patients who have a blood cancer, they're hesitant to receive the vaccine.

Dr. Anna Komorowski:

And we still have questions about if the vaccine is effective or not. But given the fact that 40% of our country is already vaccinated, I don't think we're getting any information that would discourage us to get the vaccine and encourage patients to get vaccinated. And again, this is one posted in April, information from the study in the patients when they're going to transplant, that it's very critical and important for patients to be aware who are immunocompromised to be aware of the risk of infection and seek prompt, medical attention if they have COVID-19 symptoms, even after a vaccination.

Dr. Anna Komorowski:

Now, we got a lot of questions about the testing for antibodies. We do have to understand that they're two different tests for antibodies, one are the neutralizing antibodies against the receptor binding domain, so-called spike protein. If we want to see if somebody created antibodies following the inoculation with the vaccine, we check the spike antibodies. And not too soon, again, we should probably wait at least two to three weeks before we do it. We cannot tell you how much it translate to the true immunity. And I cannot tell you completely, if somebody did not create the antibodies, if

they're completely not in you. Because there are certain parts of immunity that exists in the T-cells, T lymphocytes and part of this immunity may be hiding in there and we cannot measure it.

Dr. Anna Komorowski:

There are the other so-called COVID antibodies that we measure in the patients who we suspected that they were sick or they had infection. So those antibodies are not protective. And so that's why we even recommend the patients who have COVID infection to be vaccinated. So this is positive antibody in patient, who had infection, the nucleocapsid antibody so-called COVID antibodies. And then we have a spike antibodies that should be positive in the patients who created immunity secondary to the vaccine. Another question that we don't have yet the full answer, because we are all going for this pandemic together right now. And we don't know if the healthy patients who were vaccinated, how long they keep their immunity. We know right now, it's about five, six months. The antibodies are lasting in the high titer but we don't know how long they will last.

Dr. Anna Komorowski:

And it might happen that we may need to prepare for the boost vaccine every year like we get flu vaccine and two weeks later, we'll get our COVID booster. We know that patients, older patients create lower response of immunity to the vaccine and patients who are undergoing again, immunoglobulins infusion they may show antibodies despite a lack of immunity, because the antibodies are created from the donors who may have been vaccinated already. What do we know about if we talk about particular on the population of the patient with breast cancer? What we know is that patients who are vaccinated may develop swelling of the lymph nodes, and we observed so called axillary tenderness in about over 11% after the first vaccine and up to 16% after second dose. And we've all seen it, the patients are coming, we examine them, we find the positive lymph nodes.

Dr. Anna Komorowski:

And we recommend right now the Society of Breast Imaging in general recommends scheduling imaging either prior to mammogram, sonograms prior to vaccination, or about four to six weeks after the second dose. Of course, if the patient has a mass or adenopathy is hard to fix. And it's much more that we expect from the reactive adenopathy, the proper diagnostic workup should be initiated. Also, we've seen in the patients who are undergoing the vaccine, that they may experience either lymphedema or worsening of lymphedema. So with the patients who have swelling and lymphedema, following the surgery, radiation, and the axillary lymph node dissection, they should get the shot in the contralateral arm, not in the same one that they had surgery. But if the patient has bilateral inflow dissection, you have to either talk to your physician because potentially we can administer the vaccine into the leg, into the thigh area. Or if there's no lymphedema, one side has no completely known lymphedema, this might be the preference side.

Dr. Anna Komorowski:

The pandemic took a toll on everybody in the society and similar to the general population, there is a high percentage of oncology patients that are experienced significant feeling of loneliness. And at the University of California in San Francisco, the online survey took over 600 patients with oncology diagnosis, and they were looking to evaluate their loneliness, social isolation, symptoms of anxiety, depression, fatigue, and sleep disturbance and cognitive dysfunction. And 53% were diagnosed of those patients as a so-called lonely groups. So they have symptoms of loneliness during the pandemic comparing to 38% prior to pandemic. So we know that pandemic, the isolation, not being able to hang

out with friends, attend meetings, events, meet with people who you'll call your families; it affected everybody.

Dr. Anna Komorowski:

Interestingly, the lonely group was younger. So we are used to think about older people sometimes being more lonely, but here the lonely group was younger. Patients were less likely to be married. So they were living by themselves and they have a lower annual household income. 5.3% of those patients reported severe depression and the 83%, so large number of the patients in the lonely group, carried diagnosis of breast cancer. So I shout out again to Sharsheret saying, this is where we need you as an organization to help our patients, to bring us together in meet like tonight and have a feeling that we are all together. And the lonely group reported high level of social isolation, higher symptom, severity, aches, pains, not feeling well in general. And I even said that the visits to the doctor's office became lonely for me. It's very important that I have when I have a patient coming that the patient comes with the family members.

Dr. Anna Komorowski:

I asked the question and I look at the spouse because I know that there is more information coming towards me as far as how is the patient doing? We try to always reach out to the family members and even through the video conferencing to put all of us together and tell you that you are not alone. So there comes how we treated loneliness. We have the power of social connection. This is one of the most critical factors in preventing and addressing toxic stress level by having this healthy social connection. So the antidote to loneliness is feel the connection with people around us, look for the community, give us a sense of purpose and interest sharing together. The good thing is that we live all in the era of iPhones, iPads, computers, and this helps us to stay in touch with our loved ones and look for any type of meaningful experience.

Dr. Anna Komorowski:

Anything that you like; there's join online cooking classes, yoga, painting, share the kindness, gratitude and compassion, because this is how we can connect each other together and make this time more meaningful and stay connected. And what we encourage our patients to maintain contact with family and friends, use appropriate social distancing, still, but keep in touch. And I always recommend for this to be like a visit to a doctor, schedule that every Saturday or Sunday, you have a connection with your family make it a daily routine. Similar to physical exercise. I had exactly the same recommendation. always treat the physical exercise like a doctor's appointment twice a week or whatever time you have, but make it a routine. And also engaging in the outdoor activities whenever possible, participate in the regular physical, mental exercise programs, keep healthy diet and even more important obtain sufficient amount of sleep. Because I think that the pandemic really caused issues with the sleeping in a lot of our patients.

Dr. Anna Komorowski:

Now, what we learn is we didn't diagnose as many cancers, but this is not because patients, people in the community stopped getting the cancer, we stopped... We were not diagnosing our patients. The patients stopped being diagnosed. So what we know about this, COVID-19 and undiagnosed cancer, we know that the preventive status for few months dramatically dropped. So we talking about all the sessions that we put before to have mammograms, to have sonograms, to establish the routine in our patients to go for screening tests. This is how we catch early cancers. This plummeted down, there was

some told number of cancers, there was early cancers that were undiagnosed and untreated, especially in the patients with breast cancer, colon cancer and prostate cancer.

Dr. Anna Komorowski:

And unfortunately, National Cancer Institute predicts that we're going to have probably about 10,000 excess death over the next decade, from the unrecognized early breast and colorectal cancer. So reach out to your community, spread the word, make everybody go back to their routine of screening. Even if there is a backlog we're trying to make it better. So there was actually how we find out. We look at the insurance claims and we know. We look at the cohort and it was a retrospective study. And 40% of the breast cancer patients were not infected with COVID-19, had a delay and change in the care delivery due to pandemic. And it was a rapid drop in March through May of last year with the decline of the breast cancer screening, over 90%, colorectal was 80% and prostate, 63%. So let's be an advocate and let's bring all these people were missed on their screening test, try to encourage them to go back and feel safe in our community.

Dr. Anna Komorowski:

North east per say had the sharpest decline in the screening and with the large backlog, it's probably because of the density of the population that we have here. And as you see the picture on the graph is that you can see the orange line shows us how well we're doing with the screening in 2019. The navy is said 2018. I don't know if you can see my cursor. And then this is 2020. We dropped down and we still didn't completely come back to as good as we were in 2019. So please encourage, go yourself and remember, we also know that the patients who have a lower socioeconomic status were more likely to not pursue their screening tests. So please remember about this. And how we manage everything with the breast cancer again, it's the pandemic. We basically were trying to treat everybody as much as we can by the standards. We did what we normally would do if we could, depending on the time and conditions, but there are also some advantages that emerge.

Dr. Anna Komorowski:

We start to use more endocrine therapy for the patients with breast cancer a year in the neoadjuvant setting. In certain situations we did the further treatments, let's say in some patients had low grade DCIS, ductal carcinoma in situ, we could do further surgery and just initiate the treatment with hormones. And then we consider utilizing the chemotherapy that we're less likely to make the patients very sick or require hospitalization. So for instance, weekly paclitaxel is pretty well tolerated, then it's unlikely to cause neutropenia. And of course this virus from being in the country from area to area, we have different areas that we can at different times we could treat patients more proactively and come back to our standards in times when we went on the lockdown and everything was in the slowdown. We did the way we approached it, we did a prioritization of care.

Dr. Anna Komorowski:

So we were looking at the patients and we had the patients with priority A, patients who were very sick that we had to immediately treat them because they required treatment, urgent treatment. Priority B, was when we implemented certain immunochemotherapy prior to surgery, and we use it in the new adjuvant settings and C of patients we know that can be safely delayed under the pandemic has concluded. In the breasts an experience of breast cancer survivors when we look at the published data and the information that we have monitoring the patients, we know that those patients suffered a lot in the sense of the stress of pandemic, really reflected on their quality of their life. Due to increase

household chores, due to physical inactivity, patients were complaining more of lymphedema part of this, that they were not able to get appropriately to the treatment.

Dr. Anna Komorowski:

Patients have psychological effects of anxiety, feeling over sensitive. Patients have depression. We also observed increasing the way the body mass index increase, which as you know it's adversely affects the outcome from the breast cancer so weight gain was common. And also I want to stress there was increased intake of alcohol, especially by women and alcohol does increase their risk of breast cancer. So something to think about as we recovering from the pandemic. We also felt that some of the visits were delayed and there were cancellations either because we couldn't see the patient promptly or the patient was concerned of coming and had anxiety coming to the medical facility due to increased risk of infection. But there is some good things that we learned. There was just recently reported data from the study done at NYU where 3000 women were treated for breast cancer and only 2% contracted the virus, which was expected.

Dr. Anna Komorowski:

And from this 3000 women only expected number based on statistics died was 10 patients and the patients who are getting the cytotoxic chemotherapy were at the same risk from COVID infections or complications that the one that we're taking other classes of drugs. So there was not such a profound impact on the immune system, but we still should continue to have a reasonable precautions. I actually have to tell you that if I want to try to look at my glass cup full, I see that the patients this past year didn't get as many infections. I didn't have to use as many antibiotics for common cold infections, or other reasons because patients were using the precautions, wearing the mask, washing the hands, social distancing was helping us to actually avoid infections in our patients under the treatment.

Dr. Anna Komorowski:

There was also data published regarding the ovarian cancer in the patients, so there was a study in Italy that looked at the 640 participants. And we know that there are certain effect of delaying the surgeries in the patients with ovarian cancer. In U.S. the number dropped by about 33% of patients being operated, undergoing the surgery for the ovarian cancer. The one thing to understand is the ovarian cancer, unlike breast cancer, doesn't have a good screening parameters. So it's not like we will detect it earlier in the patients because usually patients don't present soon enough due to the nature of the disease. And the other aspect that was very painful for us was the fact that we could not offer as well as we usually do the fertility preservation in the patients who are starting the chemotherapy for the breast cancer. So there was definitely increase in our anxiety and uncertainty.

Dr. Anna Komorowski:

And there was a time that the clinical trials completely stopped. We learn other things throughout the time, we learned that we can actually use a more neoadjuvant approach for the patients with breast cancer with endocrine treatment. So there was an increase in neoadjuvant approaches when we use the treatment prior to surgery. And there was increase of use of endocrine treatment to 36% from six to 7%. We also start doing genomic testing on the core biopsy to forego the chemotherapy area and understand how we can restructure the treatment better for the patients with breast cancer. And we had the decrease in the immediate breast reconstruction, which is coming back right now. So we learned something from the pandemic also, we learned how to manage our patients with certain malignancies better.

Dr. Anna Komorowski:

The long haulers concerns are we all hear about is that sometimes patients report much longer symptoms, prolonged symptoms, I've seen the report of the case where we had suspected that actually severe COVID-19 infection may lead to the reactivation of a dormant breast cancer cells. I think that we need more studies about it and we will hear those anecdotes here and there. So we need a little bit more time to really understand what's the impact. We know that patients with polycystic ovarian syndrome may have more profound effect of the infection and they may belong to so-called long haulers. So patients who are more longer symptomatic from infection. But there's also a good thing. We feel gradually that as we coming to normal life, the mask restrictions are lifted, it's easing up. I think still it's very important to use the common sense. If I go to the store, at work where I'm exposed to the crowded area, I immediately have my mask. I actually feel almost naked if I don't have it nowadays.

Dr. Anna Komorowski:

But when I'm with my family, with people I know that are practicing safety precautions, they wear masks, I feel more comfortable and being in lower not as condensed areas. Schools are opening, Broadway is coming back in September. So all the things that are coming back to us are great. I think we're going to still see less flu, just thanks to the fact that we are wearing the mask. And I want to share with you the story from my last weekend. This is my daughter Ellie, she's 10 years old and after intense soccer practice on Saturday this weekend, she told me she started feeling that she's under the weather. She's a little bit congested. And initially we thought that this is an allergy, so next day she woke up and she was more congested and more she had a sore throat. So of course, the first thought for me was, we're dealing with COVID. She's back to school, she was meeting other children, as you see, she actually uses the mask and you can see she's not feeling well here. She's a little bit miserable.

Dr. Anna Komorowski:

So of course I tested her and I have to tell you, I have a little bit elated feeling when the test report came in, she didn't have COVID. She had a common cold, which was for me almost signifying that our times, normal time is coming back. So remember hope, strength, and courage. We should all stay healthy and safe. And this is a beautiful view from our side of Hudson River, from Sleepy Hollow. Somebody asked where we are. We are at Westchester by New York suburbs, and this is Hudson River with a beautiful sunset and overlooking for the next beautiful day to come back to us. Thank you.

Melissa Rosen:

Dr. Komorowski if you can unshare your screen. Perfect. Thank you so much. That was so informative and provided information from so many different aspects of the pandemic. And I think that was wonderful. So you did answer a lot of questions, but we still have questions if you don't mind taking a few. So I've grouped them sort of by topic. So you talked about people who have cancer having a higher risk for poor outcomes with COVID, but is there any evidence of the opposite that either the COVID vaccine or a diagnosis of COVID itself actually impacts cancer progression?

Dr. Anna Komorowski:

I don't think that we have any data regarding the vaccine. We did not see yet anything that would imply that there was increase of cancer coming back after COVID vaccination. The only data was the one that I presented that the patients were who underwent very serious infection and their immune system was like drugged out to attend to the infection and inflammation went into this almost overdrive, that there was some possibility that this patient reactivated the dormant cancer cells. So this is not a vote for... Go

get your vaccine, because of actually becoming sick with COVID. It's still not yet the data that we have, they were just single reports. So we still cannot really see it. And I have plenty of patients who have cancer and had COVID them came to me said, "Oh yeah, I have COVID." Like, "I was a little bit under the weather a few days ago." And they do very well. So I think we need a little bit more time until we have a final conclusion.

Melissa Rosen:

That's scary to realize we don't have answers yet on some of these. So somebody specifically said that after the Moderna vaccination, her CA 15-3 jumped by three and a half times the average monthly change. And so she wondered if there were any explanations for that.

Dr. Anna Komorowski:

Not really, again, just to being completely scientific. I don't think that we have any reports yet, but you probably going to have a discussion with your oncologist. And most of us, when we see such a sudden spike, if you are completely asymptomatic patient, usually what I do, I say come back in a few weeks we'll repeat it because they might be some antibody interaction. I've seen tumor markers coming up in the patients who were getting growth factors. So I know that tumor marker is not the absolute measurement of activity of the disease, but it's one of the components that we use. So probably your oncologist is going to have a discussion with you repeat it, and then if there's still a concern [inaudible 00:46:11] much again, but we don't see too many of those, those reports are coming to us. There's a possible correlation, but nothing gets scientifically proven.

Melissa Rosen:

It sounds like it might even be just how with mammograms there is a temporary change. All right, let me ask you this. For people who were vaccinated during active treatment, whether it's chemo or radiotherapy, even aromatase inhibitors, is there any evidence that the vaccine could be less effective? We've heard occasional reports about people who are immunocompromised mounting, a less vigorous response to the vaccine.

Dr. Anna Komorowski:

So we definitely see it in the patients with lymphatic or what we call liquid hematology, malignancy, lymphoma leukemia, multiple myeloma. We see it in the patients who are exposed to high doses of steroids. We see it in the patients who are on Rituxan, rituximab treatment. So we know that the patients who are undergoing active treatment for lymphoma may not mount a response. We don't have the data, but I don't think that would expect much of the compromise in the patients who they're going through radiation therapy or treatment with aromatase inhibitors [inaudible 00:47:32], treatment for osteoporosis or other targeted treatment.

Dr. Anna Komorowski:

But, again, our immune system is different between ourselves. We all have friends, family members who are getting sick and they brush it off after one day and there are some people get sick with a cold and they're miserable. So they might be different individual differences, but usually not in the classic treatment. And as I presented the data from the breast cancer group that we have over 3000 women, they actually did very well throughout the treatment without being compromised.

Melissa Rosen:

Right. Okay. So that's actually good to hear. Is there any data on which of the three vaccines would be better for someone undergoing treatment or impacted by cancer to take?

Dr. Anna Komorowski:

Not really, but we know that there is differences from vaccine to vaccine as far as their effectiveness. As I mentioned, it might be because of where the study was done. But my preference professionally is to consider either Pfizer or Moderna, because we know that there's 90% of the effectiveness versus lower effectiveness with Johnson & Johnson. But I think Johnson & Johnson's also has for patients with good immune system is a very good vaccination and it's only one.

Melissa Rosen:

Thank you. So somebody asked or they want to know, they had heard that people who are either dealing with metastatic disease or an active treatment, or are immunocompromised for a non-cancer, either a cancer or non-cancer related thing should get an additional vaccine different from the one that they originally got to boost immunity. In other words, if they had done Moderna, they should take an additional Pfizer or something like that. Have you heard anything like that?

Dr. Anna Komorowski:

No, I didn't. And I would question it from the logic perspective that if you got one vaccine and you didn't create antibodies, you may just not create antibodies, that's it.

Melissa Rosen:

Okay. Thank you for that.

Dr. Anna Komorowski:

It may cause other complications, but not necessarily improve the outcome.

Melissa Rosen:

That's helpful. Thank you. So couple of questions about antibodies and how long they last and things like that. So should we be testing whether we've either had COVID or have had the vaccinations, should we be testing periodically to see what our antibody levels are and then perhaps change our behaviors based on that? And then related to that, there was a question about seniors who seemed to be at greater risk for the antibodies wearing off and some seniors, and some of us have already been five months vaccinated. Should they be changing their behaviors or looking to get a booster now, if that was possible?

Dr. Anna Komorowski:

I think that the studies are ongoing; so remember, despite the fact that you don't see it published, we were testing patients in the centers when the vaccine trials were done, we were monitoring the patients for antibodies. And again, we don't know yet if the level of antibodies really reflects the immunity, because I mentioned that there was in that other chapter, in our immunity, in T-cells that we don't measure really. So we can check for antibodies, but potentially when we're exposed to the virus, immune system can wake up sooner and produce faster the antibodies and in a good level, we don't know yet. And this is when we try to be as scientific as we can. And we don't want a guessing game because we are just together. You and me, living through this pandemic together right now, we never

experienced this before. This is the first time in my lifetime we have something from the influenza pandemic that was many years ago, but we are just learning. We have to use the common sense in the protection.

Melissa Rosen:

Right. Okay. So I know that the answer was, we don't know any results, but somebody asked are there currently formal and large scale studies going on that follow cancer patients and cancer survivors who took the vaccine to monitor potential impact down the road?

Dr. Anna Komorowski:

Yes. There are ongoing studies where we measure, I don't have it at my institution, but we do measure it and we find out as I mentioned, some patients will not create antibodies but this is not new. We have patients who are vaccinated in the past hepatitis B, pneumonia vaccine and their immune system just doesn't create a high titer of antibodies. We know about this. This is not new information for us so the same may happen.

Dr. Anna Komorowski:

And I also see the question here coming, which I think is very important that somebody has antibodies after COVID infection. Should they get vaccine? Yes. As soon as they recover, because we know that the way we stimulate the immune system, we actually stimulate against that particular spike protein, that spike protein is the one that when they land in our body, it attaches to the lining. So this is when our antibodies should come and allow us to be protected. And also there are reports of patients who got COVID more than once. So boosting the immune system with the vaccination is the right way to go even if somebody had infection.

Melissa Rosen:

And the two vaccinations, if you take Moderna or Pfizer, not just one?

Dr. Anna Komorowski:

That's correct. Certain countries in Europe, got one but I think this was also because they had issue with suppliers.

Melissa Rosen:

Okay, great. Well, we have time for one more question. And I think that this is a question that's definitely relevant during the pandemic, but a question that comes up for a lot of reasons and before, and will come up after as well. So how long does someone completing active treatment remain immunocompromised? In other words, in general, at this point in the pandemic, what are our COVID precautions that are being recommended for those who have been impacted by cancer? When can they say my risk is the same as anyone else on the street?

Dr. Anna Komorowski:

Yeah. So we treat basically the patients who are in active chemotherapy, we know that their immune system goes down, recovers, goes down, recovers, especially for instance, in the adjuvant or neoadjuvant settings, when the bone marrow was healthy, the body's healthy. So we know that we should say you have couple of months recovering, your white count is returning to normal. This is when

we consider the patients to recover. If the patients who are on active endocrine treatment, I don't think we can claim that there is any documented evidence that the immune system is compromised. Again, it's individual, because we know some patients who got sick and have complications of COVID, we're not always the patients that we would recognize on average that are immunocompromised. So just give those precautions and remember it's like in the peak of influenza, the same.

Melissa Rosen:

Right. Okay. Amazing. Thank you. Listen, I wish we had time for more questions, but I want to thank you for sharing your expertise. Your presentation was so informative and had some incredibly practical information for all of us. So thank you for that. Once again, I want to thank our sponsors for this important webinar, Clovis Oncology, Merck, Northwell Health, and Seagen. Please take a moment to answer a poll, a very brief evaluation poll, the link to which will be in your chat box in a moment. Again, it is a very brief evaluation, but your feedback really does impact future plans. It's up, there it is now, if you click it now, you can still hear the last few moments of the webinar.

Melissa Rosen:

And I am excited to share that we have two webinars coming up in the next week and a half. So on Thursday, June 3rd, at 8:00 PM Eastern Sharsheret's Book Club, will be hosting Hadassah Lieberman. She is a breast cancer survivor and the author of *An American Story*. And she will be in conversation with reporter Sandee Brawarsky. And on Monday, June 7th at 3:00 PM Eastern, we're going to mark National Cancer Survivors Day with a unique conversation about the complicated nature of the term survivor. There is a link in the chat box again, that will give you an opportunity to register for both of those.

Melissa Rosen:

And finally, as always, I want you to remember that Sharsheret is here for you and your loved ones. We provide emotional support, mental health counseling, and other programs designed to help you navigate through the cancer experience. And again, as always, always customized, always confidential and always absolutely free. Please, don't hesitate to be in touch with us. Thank you for joining us and have a good night.

Dr. Anna Komorowski:

Thank you.

Melissa Rosen:

Bye-bye.

Dr. Anna Komorowski:

Bye-bye.

Speaker 3:

Thank you so much.

Speaker 4:

Thank you.

About Sharsheret

Sharsheret, Hebrew for “chain”, is a national non-profit organization, improves the lives of Jewish women and families living with or at increased genetic risk for breast or ovarian cancer through personalized support and saves lives through educational outreach.

With four offices (California, Florida, Illinois, and New Jersey), Sharsheret serves 150,000 women, families, health care professionals, community leaders, and students, in all 50 states. Sharsheret creates a safe community for women facing breast cancer and ovarian cancer and their families at every stage of life and at every stage of cancer - from before diagnosis, during treatment and into the survivorship years. While our expertise is focused on young women and Jewish families, more than 15% of those we serve are not Jewish. All Sharsheret programs serve all women and men.

As a premier organization for psychosocial support, Sharsheret’s Executive Director chairs the Federal Advisory Committee on Breast Cancer in Young Women, Sharsheret works closely with the Centers for Disease Control and Prevention (CDC), and participates in psychosocial research studies and evaluations with major cancer centers, including Georgetown University Lombardi Comprehensive Cancer Center. Sharsheret is accredited by the Better Business Bureau and has earned a 4-star rating from Charity Navigator for four consecutive years.

Sharsheret offers the following national programs:

The Link Program

- Peer Support Network, connecting women newly diagnosed or at high risk of developing breast cancer one-on-one with others who share similar diagnoses and experiences
- Embrace™, supporting women living with advanced breast cancer • Genetics for Life®, addressing hereditary breast and ovarian cancer
- Thriving Again®, providing individualized support, education, and survivorship plans for young breast cancer survivors • Busy Box®, for young parents facing breast cancer
- Best Face Forward®, addressing the cosmetic side effects of treatment
- Family Focus®, providing resources and support for caregivers and family members
- Ovarian Cancer Program, tailored resources and support for young Jewish women and families facing ovarian cancer • Sharsheret Supports™, developing local support groups and programs

Education and Outreach Programs

- Health Care Symposia, on issues unique to younger women facing breast cancer
- Sharsheret on Campus, outreach and education to students on campus
- Sharsheret Educational Resource Booklet Series, culturally-relevant publications for Jewish women and their families and healthcare Professionals

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