

212P A cohort study on the immunogenicity and safety of the inactivated SARS-CoV-2 vaccine (BBIBP-CorV) in patients with breast cancer: Does trastuzumab interfere with the outcome?

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Background: The COVID-19 pandemic has led to more than 260 million infections and 55 million deaths as of early December 2021, worldwide. Vaccinating people against COVID-19 is considered as the best approach to overcome the pandemic since COVID-19 vaccines are effective and can reduce the risk of getting and spreading the virus. However, their efficacy and safety in patients with underlying disease such as cancers have not been approved yet. Here we report a cohort study on immunogenicity and safety of the inactivated SARS-CoV-2 vaccine (BBIBP-CorV) in patients with breast cancer, who were vaccinated as a part of a national plan for vaccination of patients with special diseases.

Methods: In this multi-institutional cohort study, a total of 160 breast cancer patients (mean age of 50.01±11.5 years old) were assessed for the SARS-CoV-2 Anti-Spike IgG and SARS-CoV2 Anti RBD IgG by ELISA after two doses of 0.5 mL inactivated, COVID-19 vaccine (BBIBP-CorV). All patients were followed-up for three months for clinical COVID-19 infection based on either PCR results or imaging findings. Common Terminology Criteria for Adverse Events were used to assess the side-effects.

Results: In the patient group, 93.3% were seropositive for either of SARS-CoV-2 anti-spike or SARS-CoV2 anti RBD IgG after the second vaccine dose. The prevalence of COVID-19 infection after vaccination was 0.7%, 0% and 0% for the first, second and third month of the follow-up period. The most common local and systemic side-effects were injection site pain (22.3%) and fever (24.3%). The rate of either SARS-CoV-2 Spike protein or neutralizing antibody seropositivity was only 75.0% in patients treated with trastuzumab, compared to 96.7% in patients of the follow-up group.

Conclusions: Taken together, obtained results confirm that approved vaccines can help patients with cancer to protect themselves from COVID-19 infection. These findings highlighted the importance of early vaccination in disease with high risk including cancer, especially patients who are currently receiving treatment for cancer that may arise various complications contributing to COVID-19.

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213P Photobiomodulation therapy for the management of chemotherapy-induced alopecia: Preliminary results of a randomized, controlled trial

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Background: Chemotherapy-induced alopecia (CIA) is one of the most traumatizing experiences for oncological patients. Although CIA is reversible, it still requires several months for the hair to regrow, and cases of permanent CIA are reported. Photobiomodulation (PBM) therapy is based on applying (near)-infrared light on target tissue to stimulate cell repair processes. Positive results were demonstrated in clinical trials applying PBM for the treatment of androgenetic alopecia. The aim of this trial is to evaluate if PBM can accelerate hair regrowth after chemotherapy in breast cancer patients.

Methods: A RCT with breast cancer patients that underwent an anthracycline and taxane-containing chemotherapy regimen was set up at the Jessa Hospital (Hasselt, Belgium). Patients were randomized to the control group (no intervention) or the PBM group (three PBM sessions each week for 12 weeks, starting the last day of their chemotherapy). Hair regrowth was evaluated based on photographic assessments. Two blinded researchers independently scored the hair regrowth using a Numerical Rating Scale. Data were collected on the day of their last chemotherapy session and one, two, and three months post-chemotherapy.

Results: A total of 26 breast cancer patients were included in the trial between July 2020 and September 2021. The mean change in hair regrowth at one month after chemotherapy was significantly higher in the PBM group (12.5%, n=12) compared to the control group (3.9%, n=14) (P=0.046, Mann-Whitney U-test). However, at two and three months post-chemotherapy, no significant difference in mean change was observed between both groups (Ps>0.131).

Conclusions: Based on these preliminary results, PBM seems to accelerate hair regrowth after chemotherapy in breast cancer patients. However, further research in a larger patient population is necessary.

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214P Obstetric complications at time of delivery amongst breast cancer survivors: A population-based cohort study

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Background: Our aim was to determine whether breast cancer survivors are at increased risk of obstetric and maternal complications at time of delivery.

Methods: The USA 'National Inpatient Sample' database was queried for hospitalizations associated with deliveries, between 2015 and 2018. The incidence of maternal and fetal complications was compared between women with, and without, a personal history of breast cancer.

Results: Of the 2,103,216 birth related admissions, 617 (0.03%) of the women were breast cancer survivors, with the proportion increasing over time (from 0.02% in 2015 to 0.04% in 2018). Of these, 50.5% were White, 19.9% Hispanic, 14% Black, 5.7% Asian/Pacific Islander, 5.1% other or unknown. Compared to the other ethnic groups, a smaller proportion of Hispanic origin were breast cancer survivors [OR 0.5, 95% confidence interval (CI) 0.39-0.65, p<0.001]. Breast cancer survivors had a higher socioeconomic status (p<0.001) and were significantly older compared to other mothers (34 vs. 28 years, p<0.001). Additionally, they were more likely to suffer from preexisting chronic diseases including cardiopulmonary disease and diabetes mellitus, and had a higher incidence of multiple gestation (4.4% vs. 1.6%) [OR 2.7, 95% CI 1.9-4.0, p<0.001]. The incidence of acute adverse events at time of delivery including fetal distress, preterm labor, cesarean section and maternal infection was higher amongst the breast cancer survivors. On multivariate analysis age, ethnic group, comorbidities, multiple gestations, and a previous breast cancer diagnosis, but not cancer treatment were associated with an increased risk of an obstetric adverse event.

Conclusions: Breast cancer survivors are at increased risk of obstetric and maternal complications, the absolute numbers are low. Disparity due to race and socioeconomic status should be avoided. We advise that the care of all young patients with breast cancer should be discussed within a multidisciplinary team before any treatment decision making, including consultation about fertility and family planning. When pregnancy is desired or planned, appropriate screening and management of potential comorbidities is needed, and the pregnancy should be managed by a multidisciplinary team.

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215P Analysis of factors impacting the outcome in young breast cancers in low middle-income countries

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Background: Breast cancer in young adults accounts for 5-6% of all cancers in this age group. There are very few studies from India evaluating the trend and outcomes of breast cancer in this subgroup. The present study looked at the demographic features, clinical presentation, and outcomes in this group of patients treated at our center.

Methods: Breast cancer patients between the age of 15-30 years with histologically confirmed invasive breast carcinoma treated at our institute from January 2009 to December 2016 were included. Pregnancy-associated breast cancers (PABC) were defined as breast cancer diagnosed either during pregnancy or up to 1-year post-pregnancy in the postpartum period.

Results: Young adult breast cancers were reported in 145 out of 6000 patients (2.41%) diagnosed with breast cancer in the study period. The median age of the patients was