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Impact of the COVID-19 pandemic on breast cancer diagnosis and treatment

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Objective: To assess the impact of the COVID-19 pandemic on breast cancer diagnosis and treatment. **Methods:** This is a retrospective cohort study involving patients at the Barretos Cancer Hospital diagnosed with breast cancer between 2018 and 2023. Patients were divided into three groups: pre-pandemic (2018–2019), pandemic (2020–2021), and post-pandemic (2022–2023). The sample, comprising approximately 3,500 patients, was analyzed using appropriate statistical tests to evaluate associations between epidemiological, histopathological, and clinical characteristics, and cancer outcomes. **Results:** Preliminary analyses revealed significant variations in diagnosis and treatment during the three periods. There was an increase in the age of patients post-pandemic, with more women over 60 years (24.9%; p<0.0001). Clinical staging showed a decrease in stage I (from 23.4% to 14.9%) and an increase in stage III (from 29.6% to 36.7%) during the pandemic, indicating more advanced diagnoses (p=0.0082). Pathological staging followed a similar trend, with a decrease in stage I and an increase in stage II (38.1% post-pandemic). Initial treatment also changed, with a reduction in surgeries during the pandemic (from 59.3% to 37.7%) and an increase in exclusive palliative care (from 0.4% to 2.4%). The use of neoadjuvant hormone therapy was notable during the pandemic (18.1%). The type of surgery varied, with an increase in quadrantectomy in the post-pandemic (from 54.4% to 67.2%) and a decrease in mastectomy with immediate reconstruction (from 23.5% to 17.0%). There was a significant increase in the luminal B HER-negative molecular subtype post-pandemic (from 8.2% to 35.3%; p<0.0001). **Conclusion:** The COVID-19 pandemic significantly impacted the diagnosis and treatment of breast cancer, leading to later diagnosis and changes in treatment modalities.

Keywords: breast cancer; COVID-19; breast cancer treatment.