April 30, 2021

PharmacologyOnLine

Archives • 2021 • vol.1 • 508-510

WHICH WILL CHANGE IN BREAST CANCER SCREENING AFTER COVID-19 PANDEMIA?

Di Grezia Graziella[1*], Gatta Gianluca[2], Petrillo Antonella[1]

[1] Radiology Division, ISTITUTO NAZIONALE TUMORI – IRCCS - FONDAZIONE G. PASCALE, Naples, Italy

[2] Radiology Department, "Luigi Vanvitelli" University of Campania, Naples, Italy

*graziella.digrezia@gmail.com

Abstract

Breast cancer screening programs in increasing the survival rate and decreasing the mortality rate has been widely confirmed; medical system was not paralyzed due to Covid-19, but due to pandemia priority and breast cancer screening programs have been shut down, with a real impact on womens' health and quality of life.

Pandemia gave us the opportunity to rearrange breast screening modality, with the possibility of use social media (f.e. Whatsapp or a dedicated app) to add, cancel of modify an appointment,

virtual consultations with a breast radiologist and adding automatized breast ultrasound systems (ABUS) to FFDM (full-field digital mammography) or DBT (digital breast tomosynthesis).

A new era of breast cancer screening could raise prevention programs also in low-adhesion population.

Keywords: *breast cancer screening, covid-19 pandemia, ABUS (Automatized breast ultrasound systems), DBT (digital breast tomosynthesis), BRCA (breast carcinoma-associated antigens)*

Introduction

Screening represents an indipendent prognostic factor in breast cancer thanks to an improved survival rate and decreased loco-regional recurrence incidence [1].
Breast cancer screening programs in increasing the survival rate and decreasing the mortality rate has been widely confirmed.

Since the introduction of breast cancer screening, the incidence of T2-T4 cancers has decreased by 30% in less than 8 years [2] with a different adherence between north and south of Italy.

What happened during the pandemia?

Medical system was not paralyzed due to Covid-19, but due to pandemia priority, sick healthcare staff, organization difficulties (personnel spacing, equipment sanitization, difficulties in tracking asymptomatic positives between patients).
Breast cancer screening programs have been shut down, with a real impact on womens' health and quality of life.
However, even if screening programmes were continued, adehesion would have been low
because of population's perceived risk on their willingness to attend screening also because
hospitals do not promote cancer screening as actively as they did before the outbreak.
Consequently, both organized and self-referral screening have been temporarily suspended and patients have been contacted to defer to a later date; moreover, according to government restrictions, non-urgent procedures have significantly slowed-down and only urgent imaging remained available.
According to estimates, there could be 36.000 missed or delayed diagnosis of breast cancer during the period March-June 2020 [3].
In Italy, breast cancer diagnosed in the first five months of 2020, among women aged between 50 and 69 yo, became significantly lower as compared to the same months in 2019 (-2099 cases). This is also due to a delay of 53.8% in the first five months of 2020, compared to 2019 in mammogram screening service with a overall reduction of all screening examinations of 1.428.949 (including cervical, mammographic and colorectal screening).
These numbers are to be revised also in the light of the restrictions of the last seven months of 2020, not only due to the shut down of screening programs and outpatients activities that include spontaneous breast cancer prevention, but also to lower women's partecipation.
Fewer diagnoses of breast cancer resulting in stage migration, altered clinical management and poorer outcomes.
Unlike general population, BRCA carriers should continue prevention because in these patients a delays of >6 months is generally worse with an impaired prognosis; usually cancer screening of mutation carriers start at 25 yo [4].
Only some countries, such Taiwan continued breast cancer screening programs using maily mobile mammograpy units, both beacuse patient access in hospital was limited and because people hesistated to go to hospitals during the pandemic.
This organization, with a flexible and outreach system allows to the screening program to remain stable, avoiding delays in breast cancer diagnosis and long intervals between invitations.

What we can do now

This approach taught us that is necessary to re-organizing and adapting allocation of healthcare resources; both healthcare staff and infrastuctures must be adapted in order to detect early breast cancer minimizing exposure risk and preserve resources without compromising patients' outcome.
Even if Covid-19 vaccinal campaign has begun, the not compulsory nature makes it necessary to maintain the protective measures for healthcare staff and for patients.
To date, it is necessary to found a new model that can optimize the diagnosis, time and to regain confidence between patient and physician.
As Albert Einstein said "The crisis is the greatest blessing for people and nations, because the crisis brings progress "and also for breast cancer screening it' s time for challenges.
First, it is necessary to improve accessibility in dedicated rooms with the possibility to differentiate screening according to age, familiar and personal history and previous exams.

As an alternative, a virtual consultation with a breast radiologist (or also a resident) should give the opportunity to plan the examination to be carried out in order to organize only one appointment for a personalized screening [5].
Automatized breast ultrasound systems (ABUS) in prone or supine position as an adjunct to FFDM (full-field digital mammography) or DBT (digital breast tomosynthesis) in screening programs have a diagnostic accuracy comparable to that of handheld ultrasound (HHUS).
Social media (f.e. Whatsapp or a dedicated app) could be used to add, cancel of modify an appointment or for a telehealth consult. This system could encourage a rapid resumption of women's breast cancer screening programs trying to make up for lost time during the Covid-19 pandemic, dedicated resources of breast radiologist are needed.

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