

Possible Adverse Impact of Combined Internal and External Factors Surrounding Patients on the Management of Breast Cancer Patients under the COVID-19 Pandemic: a case report

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Abstract

Specific background information on cancer patients affected more severely by crisis and disasters is lacking. We experienced an advanced breast cancer patient whose hospital visits were interrupted for two years due to multiple internal and external factors. These factors need to be taken more into account for breast cancer management.

Introduction

Breast cancer is the most common cancer for women, with an estimated 685,000 fatalities worldwide in 2020.¹ Fortunately, with the widespread availability of screening and the advancement of medical technology, the survival rate of breast cancer patients in developed countries has exceeded 80%.² Meanwhile, the mortality rate has been reported to increase by up to two to three times with a delay of only 12 weeks in the initial diagnosis and subsequent treatment.³ Therefore, providing an appropriate approach for each patient's situation is essential to encourage patient screening and consultation for early detection.⁴

Since the 2011 triple disaster (earthquake, tsunami, and nuclear disaster), more attention has been paid to disasters and crises as external factors affecting breast cancer screening and consultations. Several reports have indicated that breast cancer patients in Fukushima were reluctant to receive medical consultations after the disaster, resulting in prolonged refrains, with mortality rates increasing among those who delayed their consultations.⁵⁻⁷ Furthermore, under the ongoing COVID-19 pandemic, breast cancer patients' refraining from seeing doctors and postponement or cancellation of surgeries and examinations have also been reported.^{8, 9}

Several factors have been named relevant to medical consultation delays after disasters and crises such as reduction of health priorities due to the significant changes in the surrounding environment.^{7, 10} In addition, a post-disaster case study in Fukushima indicated that reduced support from family and friends was associated with delays in medical visits.¹¹ Refraining from hospital visits due to the fear of being infected with the COVID-19 can also be interpreted in this context.^{9, 12} Further, personality factors have been also noted as possible factors associated with delays in hospital visits.^{13, 14}

However, there have not been enough studies on breast cancer patients that systematically evaluated the factors such as lower health priorities, personality, and support from the surrounding community in patients who delayed their medical visits in actual cases of disasters and crises. Therefore, we took into consideration of contributions of these factors to the patient delay in crisis situations in this paper, by focusing on a breast cancer patient who visited our hospital for suspected breast cancer symptoms, interrupted her visits for as long as 2 years due to the state of emergency against the COVID-19 pandemic, and was diagnosed with advanced cancer.

Case Presentation

A woman in her 70s with a previous history of hypertension visited another hospital in 1999 for nipple discharge, but the cytological examination did not demonstrate any malignant cells. Since then, she has undergone checkups every six months without any malignancy being detected.

She noticed that her discharge color was turning reddish about two months before and visited our hospital in Iwaki City, Fukushima Prefecture, in January 2019. The mammography and ultrasonography demonstrated a well-defined smooth margined oval mass with calcification, which appeared to be a series of masses from the left E to the AB area. Since malignancy could not be excluded, we performed a needle biopsy, and she was diagnosed with mastopathy. Considering the possibility of an enlarged mass, we instructed her to revisit our hospital in six months. When she visited our hospital in July 2019, no enlargement of the mass was identified on mammography and ultrasonography. At this time, since the discharge was bloody, we performed a cytological diagnosis and found it to be Class 2 and instructed the patient to follow up for one year. Subsequently, Japan's COVID-19 pandemic became severe, leading to the declaration of a state of emergency around April 2020. Thus, she failed to visit our hospital at the expected time and came to consult in March 2022 with the primary symptom of increased bloody discharges. However, there was no lump or any other noticeable abnormality. On examination, a 50mm-sized mass was found just under the left nipple, and she was diagnosed with cT2N0M0 Stage IIA invasive breast ductal carcinoma (ER >90%, PR >90%, HER2 0, Ki67 31.2%). On April 27, she underwent mastectomy and sentinel lymph node biopsy. A rapid examination revealed no metastasis to the sentinel node, so an axillary dissection was omitted. Based on final pathology, she was diagnosed with pT3 (55mm) N0M0 Stage IIB, invasive breast ductal carcinoma, NG3, and HG3. Given that the patient had an RS13 score on the 21-gene assay (Oncotype DX Recurrence Score, Genomic Health), the patient was treated only with hormone therapy.

The patient was then interviewed about the background of the delay in visiting our hospital. According to her, she decided to wait to see us until after the outbreak of the COVID-19 infection because she had thought that medical facilities would be in a difficult situation, and she believed her disease was already benign. Later, around January 2021, there was an increase in secretion and its redness. Since it was not clear when the outbreak of COVID-19 would settle down, she called the hospital in November 2021. As the increase in secretions was not mentioned then, an appointment was made for the patient in March 2022.

Overall, the reason for not rushing to see the doctor was that she had not been diagnosed with cancer previously, so she assumed everything would be okay. Indeed, she mentioned herself as an easy-going and laid-back person.

Regarding her family, her daughter had already matured and was living away from Iwaki City, but she was living with her husband. However, she also has the tendency to keep everything to herself and did not consult with her husband, daughter, or friends during this period.

Discussion

We reported on a patient who had advanced cancer after refraining from visiting hospitals for more than two years due to fear of the COVID-19 infection and from her easy-going and laid-back personalities. This patient had multiple characteristics that could have led to a delay in receiving medical care during a disaster, and the combination of these factors may have had a long-term effect on the patient.

Typically, in disasters and crises, the importance of personal health tends to decrease temporarily, particularly in diseases such as breast cancer, which progresses relatively slowly.^{5-7, 10} Moreover, in this case, the failure to diagnose cancer in multiple previous visits may have lowered the priority of breast symptoms in the pandemic. Indeed, previous studies have also shown that a previous benign diagnosis can decrease a patient's suspicion of cancer.¹⁵

In addition, her personality may have had a significant role in this patient's delay in visiting hospitals. This patient described herself as easy-going and laid-back. In fact, this patient did not seek timely consultation even after becoming aware of the worsening of her symptoms. If she had been seen earlier, it would have been possible to diagnose her disease at an earlier stage.

Another important characteristic is that she did not adequately consult with the people around her about her condition. There have been reports of cancer patients who delayed their visiting hospitals due to the loss of opportunities to communicate with their surrounding family and friends about their health conditions after the triple disaster.⁷ While this patient did not lose any family members from the COVID-19, her failure to actively seek support from her surroundings may have resulted in a lack of response, leading to a prolonged delay in seeking medical consultation. In this respect, this can be said to be a matter of personality, but it is also a matter of family and surrounding support.

Of course, there are limitations to what we can state from a single case. It is impossible to determine which factors contributed specifically and to what extent to the results. Nevertheless, one thing that is clear from this case is the possibility of long-term delays in hospital visits due to the simultaneous involvement of a variety of factors that may contribute to such delays, and it will be necessary for health care professionals to be fully aware of their patients' backgrounds on a daily basis.

Moreover, a coherent strategy is reminders. For example, our clinic routinely requests patients to make their appointments when they revisit us in more than one year. Thus, we could not comprehensively identify those who had not made an appointment or seen a doctor one year later, thereby leading to the above situation. We must take measures to fill this gap, which is especially important under the ongoing COVID-19 pandemic. Further, the importance of such reminders has also been noted in regular medical practice.¹⁶ In addition, it is important to listen to the patient's personality and family environment during regular medical consultations and through collaboration with other professionals, such as medical social workers, to guide the patient to a timely visit to the hospital, even in times of crisis.

In conclusion, we experienced an advanced breast cancer patient who refrained from seeing a hospital for more than two years because of fear of COVID-19 and from her easy-going and laid-back personalities. Various overlapping factors, such as lower health priorities, personality, and availability of surrounding support, may lead to prolonged delays in medical visits. It will be necessary to understand the situation of patients on a daily basis carefully and, drawing on this information, to remind high-risk patients in the event of a disaster or crisis. Also, further analysis would be needed to determine how each factor affects and leads to delays in long-term medical visits.

Key Clinical Message

Under the COVID-19 pandemic, regular and timely follow-up necessary for breast cancer management has been hampered. Thus, more attention should be paid to patients' internal and external factors possibly negatively affecting their breast cancer management and provide a high-risk approach.

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