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Case Report

The Role of Microbes in the Cancer Recovery of 38 years old female with 70 Kg Body weight

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A 38 years old female with 70Kg weight began experiencing symptoms such as unexplained weight loss, persistent fatigue, severe abdominal pain, and chest pain, which made daily activities difficult. Additionally, the patient had symptoms such as lump/thickening in the breast, changes in breast size, shape, skin texture (dimpling, redness), nipple discharge, persistent breast pain/discomfort. She was admitted on February 2020 in the hospital. Imaging, biopsy, mammogram, MRI, CT scan and blood tests confirmed a breast cancer.

The treatment started in January 2021. During chemotherapy, the symptoms like fatigue, weakness, nausea, vomiting, hair loss, redness, peeling, darkening of skin were reported. As part of treatment, chemotherapy and immune system enhancement therapies were performed. Pre-treatment supportive care was taken by taking paracetamol/ibuprofen for the pain management. In addition, for the management of anxiety and stress, Lorazepam was used.

The chemotherapy was taken during January 2021– June 2021 to allow shrinking of tumor prior to the surgery. The used drugs were administered every 2-3 weeks in the cycles. Combination of doxorubicin (Adriamycin), cyclophosphamide, and paclitaxel (Taxol) were used [1]. The surgery was performed during July 2021 to August 2021 (figure 1). Filgrastim was used as supportive medication [2] for boosting the white blood cells and Ondansetron to control nausea [3].

Mastectomy [4]/Lumpectomy [5] (depending on severity) and sentinel lymph node biopsy [4] were also performed.

Moreover, post surgery medications were used for the health improvement including pain killers, for example, paracetamol [6] and antibiotics including Amoxicillin [7]. The radiation therapy was taken [8] during September 2021 to November 2021 for destruction of remaining cancer cells with the schedule as 5 days/week for continuous 4-6 weeks. Moreover, supportive medicine such as Steroids (Dexamethasone) [9] was taken to reduce the inflammation and skin protection creams (Aloe Vera, Hydrocortisone) for protection of the skin.

The hormone (Tamoxifen) therapy was received by the patient during December 2021 to November 2024. Its side effects were reported as hot flashes, pain in the joints and fatigue. Recovery phase was reported as December 2021 to November 2024.

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After treatment, the symptoms such as lingering fatigue, nerve pain, numbness (especially after surgery or chemotherapy), Lymphedema (swelling in the arm or chest after lymph node removal), Hormonal imbalance (mood swings, hot flashes) were reported.

The treatment plan involved chemotherapy, targeted therapies, and pain management to help alleviate discomfort caused by the chest tumors. Additionally, doctor recommended a diet to support immune system's response to cancer treatment. This diet included foods rich in probiotics, prebiotics, and fiber to restore and maintain a healthy gut microbiome. Alongside the medical treatments, the patient also practiced daily meditation, which helped her maintain a positive mindset, reduce stress, and manage inflammation in her body.

After several months of chemotherapy and a microbialsupportive diet, the patient's condition showed significant improvement. Her pain reduced, her breathing improved, and her overall energy levels increased. Surprisingly, the size of her tumors decreased significantly, which was noted as a remarkable recovery.

The side effects of chemotherapy caused significant discomfort, including pain and fatigue. In addition, the loss of hair, fatigue, nausea as well as the low immunity were observed.

During the treatment, the patient took microbiomeenhancing diet. Beneficial microbes were integrated in the diet. The patient was recovered in November 2024.

Microbial science has proven to be a crucial component in enhancing treatment outcomes, especially in diseases like cancer. In the present case, incorporating beneficial microbes such as *Lactobacillus* and probiotic-rich foods like garlic, onions, and bananas helped restore a healthy microbial balance supporting breast cancer treatment.

This personalized, multi-faceted approach exemplifies the future of medicine, where diet and microbiomebased therapies work alongside traditional treatments to achieve optimal patient outcomes.



Figure 1: The chest region of the patient after surgery.

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