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MODERN TREATMENT OF ORAL MUCOSITIS AS A COMPLICATION OF CHEMOTHERAPEUTIC TREATMENT OF PATIENTS WITH BREAST CANCER. CLINICAL CASE

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Abstract

Introduction. According to the latest data from the Ukrainian National Cancer Registry, an average of 137,300 oncology cases is registered in Ukraine annually. As in January 1, 2019, there are 1254700 people registered.

Breast cancer of women is a serious health problem, as it accounts for 20% of malignancies. According to the National Cancer Institute, the incidence of breast cancer has increased by 30% over the past 20 years.

Patients with breast cancer receiving chemotherapy face a number of difficulties, including suffering from chronic fatigue, lack of physical shape and immune system problems. Despite the fact that breast cancer is one of the most studied areas of medicine, there are significant gaps in published data; there are no answers to questions that are important for patients and health professionals. Oral mucositis on the background of cancer therapy is an acute inflammation of the oral mucosa due to systemic chemotherapy or radiation therapy in the oral cavity.

The aim. The aim of this study is to show the features of therapeutic treatment of mucositis of patients with malignant neoplasms of the breast and to confirm the need of prevention and treatment of dental diseases before chemotherapy.

Materials and methods. The first case, Patient A, 47 years old, diagnosed with stage 2 breast cancer and receiving chemotherapy went to the clinic of the Medical University, complains of pain in the lower right jaw, discharge from the fistula, headache and weakness, which appeared few days later. It was more painful during eating. According to the patient, the pain has appeared after the second session of chemotherapy.

First of all, the face is symmetrical, and the mucous membrane is hyperemic and swollen. Second, adentia 47, 46, 45, 44, 42, 36, 37. The patient has been using a removable partial lamellar prosthesis for the lower jaw during 10 years. Where the 46th tooth was, is inflamed. During palpation of a transitional fold edema, allocation of pus, the patient notes sharp pain. Orthopantomogram and intraoral X-ray have shown no changes in the bone structure of the alveolar sprout. The clinical and radiographic picture corresponds to the diagnosis of acute mucositis of the oral cavity caused by the beginning of chemotherapeutic treatment of breast cancer.

During the first visit, according to our proposed treatment, tactics after infiltration anesthesia, antiseptic treatment with 1% dioxidine solution and application of antibacterial and keratoplastic ointments. The patient has been instructed in how to treat the oral cavity by an antiseptic and hygienic treatment of the oral cavity for 10 days.

While the second visit. The patient complains of fever up to 37.5 - 38°C, weakness, increased pain and increased secretion of pus. The treatment was consisted of antibiotics, antihistamines, probiotics and anti-inflammatory medications as of applications of anti-inflammatory and keratoplastic medications are prescribed twice a day for 10 days.

The third and last visit, the patient has an improvement in his well-being as positive changes. The pain during the meal decreased, no headache, nor weakness and fever.

Results. After our proposed therapeutic treatment of acute mucositis of the oral cavity, the patient's complaints decreased. There are no signs of inflammation, namely redness of the mucous membranes, fistula, edema and acute pain. The ulcer in the area of the missing 46th tooth corresponds to the stage of proliferation and subsequent healing. The patient notes a significant improvement in general well-being.

Conclusions. The results confirm that insufficiently sanitized oral cavity of cancer patients can lead to certain dental complications during chemotherapy. It has been proven that chemotherapy can cause acute or exacerbate chronic inflammatory processes in the oral cavity. It has also been confirmed that dental complications are difficult to treat during a course of chemotherapy. This requires the joint cooperation of an oncologist and a dentist in diagnosing the disease and determining treatment tactics.

Key words: oncology; breast cancer; chemotherapy; oral mucositis; oral hygiene

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Introduction

According to the latest data from the Ukrainian National Cancer Registry, an average of 137,300 oncology cases is registered in Ukraine annually. As in January 1, 2019, there are 1254700 people registered [1].

Breast cancer of women is a serious health problem, as it accounts for 20% of malignancies. According to the National Cancer Institute, the incidence of breast cancer has increased by 30% over the past 20 years. This is one of the most common cancers in Ukraine [2].

Patients with breast cancer receiving chemotherapy face a number of difficulties, including suffering from chronic fatigue, lack of physical shape and immune system problems [3]. The general somatic status of patients and its complications affect the patient's condition; also contribute to the emergence of the acute or the exacerbation of chronic dental diseases [4].

Despite the fact that breast cancer is one of the most studied areas of medicine, there are significant gaps in published data; there are no answers to questions that are important for patients and health professionals [5]. One of these questions is the prevention and treatment of dental complications of chemotherapy. Inflammation of the mucous membrane, or mucositis of the oral cavity, is one of the most common complications of chemotherapy in the treatment of breast cancer [6].

Oral mucositis on the background of cancer therapy is an acute inflammation of the oral mucosa due to systemic chemotherapy or radiation therapy in the oral cavity. The clinical picture varies from generalized erythematous stomatitis to erosive lesions and open ulcers. It accounts for 20% to 40% of all complications. Areas of lesion are often very painful, can complicate the process of nutrition and oral hygiene, as it increases the risk of local and systemic infections. In addition, severe oral mucositis may require an undesirable dose reduction of chemotherapy. This, mucositis is a very significant complication of cancer therapy with a potential impact on predicting the further course of the disease [7, 8].

The aim

The aim of this study is to show the features of therapeutic treatment of mucositis of patients with malignant neoplasms of the breast and to confirm the need of prevention and treatment of dental diseases before chemotherapy.

Materials and methods

The first case, Patient A, 47 years old, diagnosed with stage 2 breast cancer and receiving chemotherapy went to the clinic of the Medical University, complains of pain in the lower right jaw, discharge from the fistula, headache and weakness, which appeared few days later. It was more painful during eating. According to the patient, the pain has appeared after the second session of chemotherapy.

First of all, the face is symmetrical, and the mucous membrane is hyperemic and swollen. Second, adentia 47, 46, 45, 44, 42, 36, 37. The patient has been using a removable partial lamellar prosthesis for the lower jaw during 10 years. Where the 46th tooth was, is inflamed. During palpation of a transitional fold edema, allocation of pus, the patient notes sharp pain. Orthopantomogram and intraoral X-ray have shown no changes in the bone structure of the alveolar sprout. The clinical and radiographic picture corresponds to the diagnosis of acute mucositis of the oral cavity caused by the beginning of chemotherapeutic treatment of breast cancer.

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|--|---|---|---|---|---|---|
| 0 | 6 | 5 | 4 | 3 | 2 | 1 | 1 | | 2 | 3 | 4 | 5 | 6 | 0 |
| 0 | 0 | 0 | 0 | 3 | 0 | 1 | 1 | | 2 | 3 | 4 | 5 | 0 | 0 |

Figure 1. Dental formula of patient A.



Figure 2. Patient A before treatment

During the first visit, according to our proposed treatment, tactics after infiltration anesthesia, antiseptic treatment with 1% dioxidine solution and application of antibacterial and keratoplastic ointments. The patient has been instructed in how to treat the oral cavity by an antiseptic and hygienic treatment of the oral cavity for 10 days.

While the second visit. The patient complains of fever up to 37.5 - 38°C, weakness, increased pain and increased secretion of pus. We, dentists with the oncologist decided to adjust the course of chemotherapy and pause for active treatment of dental complications.

The treatment was consisted of antibiotics, antihistamines, probiotics and anti-inflammatory medications as of applications of anti-inflammatory and keratoplastic medications are prescribed twice a day for 10 days. It is forbidden to use an old removable prosthesis for the lower jaw.

The third and last visit, the patient has an improvement in his well-being as positive changes. The pain during the meal decreased, no headache, nor weakness and fever.

Objectively. The face is symmetrical; the mucous membrane is pale pink. In the city of the missing 46 the ulcer is covered with a fibrin film, in the area of the missing 44 the fistula is absent. On palpation of the transitional fold there is no edema, the pain is moderate, which confirms the positive dynamics and provides an optimistic prognosis. The patient was given advice on further rehabilitation of the oral cavity and replacement of a partial removable prosthesis on the lower jaw. It is recommended to continue chemotherapy for the treatment of common diseases in compliance with the rules of oral hygiene.



Figure 3. Patient A. after treatment

Results

After our proposed therapeutic treatment of acute mucositis of the oral cavity, the patient's complaints decreased. There are no signs of inflammation, namely redness of the mucous membranes, fistula, edema and acute pain. The ulcer in the area of the missing 46th tooth corresponds to the stage of proliferation and subsequent healing. The patient notes a significant improvement in general well-being.

The second clinical case.

Patient B, 43 years old, went to the clinic of the Medical University, complaints of pain and burning sensation in the upper jaw and palate, a rash that appeared a few days ago. It was more painful when he is eating. A patient diagnosed with stage 2 of breast cancer and receiving chemotherapy. According to the patient, the rash appeared after the first session of chemotherapy.

Objectively, the face is symmetrical; the mucosa is pale pink, hard dental plaque. There are two ulcers in the wing-mandibular fold, and two ulcers on the hard palate. Orthopantomogram showed a decrease in the height of the bone tissue around the teeth by 1/4. The clinical and radiographic picture corresponds to the diagnosis of acute oral mucositis on the background of chronic generalized periodontitis caused by the beginning of chemotherapeutic treatment of breast cancer.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7 | 6 | 5 | 4 | 3 | 2 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

Figure 4. Dental formula of patient N



Figure 5. Patient B before treatment

After the first visit. According to our proposed treatment tactics, professional oral hygiene was performed first. After application of anesthesia and antiseptic treatment with 1% dioxidine solution and application of anti-inflammatory and keratoplastic ointments. The patient has been instructed in how to treat the oral cavity by an antiseptic and hygienic treatment of the oral cavity for 10 days.

During the second visit, the patient notes an improvement in well-being and a positive trend. The pain and burning sensation while eating decreased.

Objectively, the face is symmetrical, the mucous membrane is pale pink. On the palate and wing-mandibular fold red ulcers and painless on palpation. This confirms the positive dynamics and provides an optimistic forecast. The patient was advised on further rehabilitation of the oral cavity, and consultation with a periodontist.

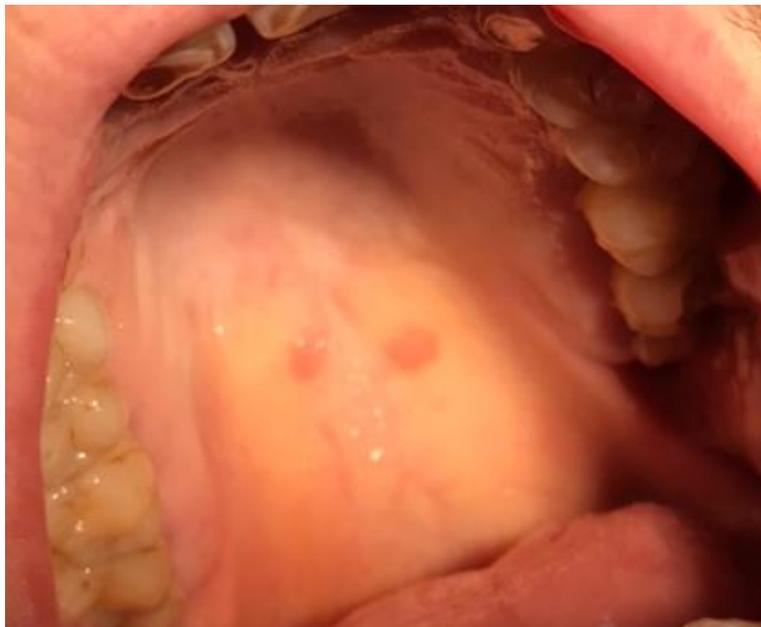


Figure 6. Patient B after treatment

Results

After our proposed therapeutic treatment of acute mucositis of the oral cavity, the patient's complaints decreased. Ulcers on the palate and pterygomandibular fold correspond to the stage of red scar formation and subsequent remission. The patient notes a significant improvement in general well-being.

Conclusions

The results confirm that insufficiently sanitized oral cavity of cancer patients can lead to certain dental complications during chemotherapy. It has been proven that chemotherapy can cause acute or exacerbate chronic inflammatory processes in the oral cavity. It has also been confirmed that dental complications are difficult to treat during a course of chemotherapy. This requires the joint cooperation of an oncologist and a dentist in diagnosing the disease and determining treatment tactics.

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