CASE REPORTS

# PHOTODYNAMIC THERAPY OF A PATIENT WITH BASAL CELL SKIN CANCER OF THE EAR STAGE T3N0M0 (CLINICAL CASE)

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## Abstract

The article presents a clinical observation. The patient, 72 years old, applied to the MNII them. P.A. Herzen with complaints about the presence of an ulcerated tumor of the left ear. After further examination, a diagnosis was made – basal cell carcinoma of the ear skin with spread to the skin of the parotid region T3N0M0. On July 9, 2021, the patient underwent a course of photodynamic therapy (PDT) using a photosensitizer based on chlorin e6 and a diode laser with a wavelength of 662 nm. After one course of PDT, complete regression of the tumor was recorded.

**Key words:** basal cell skin cancer, photodynamic therapy, photosensitizer, chlorin e6.

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# ФОТОДИНАМИЧЕСКАЯ ТЕРАПИЯ БОЛЬНОГО БАЗАЛЬНОКЛЕТОЧНЫМ РАКОМ КОЖИ УШНОЙ РАКОВИНЫ СТАДИИ T3N0M0 (КЛИНИЧЕСКОЕ НАБЛЮДЕНИЕ)

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## Резюме

В статье представлено клиническое наблюдение. Больной, 72 лет, обратился в МНИОИ им. П.А. Герцена с жалобами на наличие изъязвленной опухоли левого уха. После дообследования поставлен диагноз – базальноклеточный рак кожи уха с распространением на кожу околоушной области T3N0M0. Больному 09.07.2021 был выполнен курс фотодинамической терапии (ФДТ) с использованием фотосенсибилизатора на основе хлорина е6 и диодного лазера с длиной волны 662 нм. После проведения одного курса ФДТ была зарегистрирована полная регрессия опухоли.

**Ключевые слова**: базальноклеточный рак кожи, фотодинамическая терапия, фотосенсибилизатор, хлорин е6.

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Photodynamic therapy (PDT) in patients with basal cell skin cancer has been successfully used in clinical practice in Russia for several decades [1-4]. In some works, there is still a statement that this method can be effective only in superficial forms of this disease. Many years of experience in the treatment of patients in this category indicates that, with the use of appropriate techniques, PDT is effective not only in superficial forms of basal cell skin cancer, but also in locally advanced tumors. At the P. A. Hertsen Moscow Scientific and Research Oncological Institute effective methods of PDT have been developed that make it possible to remove foci of basal cell skin cancer even with invasive tumor growth into the subcutaneous fat or in the presence of a pronounced exophytic component. We carry out a clinical observation.

Patient P., born in 1949, turned to P. A. Hertsen Moscow Scientific and Research Oncological Institute with complaints of a bleeding ulcer in the region of the left ear. The patient about 10 years ago noted for the first time the appearance of a formation in the form of a "small superficial" wound in the region of the left auricle, he did not go to the doctors, was not treated. Since 2020, the formation began to rapidly increase in size, began to bleed. In May 2021, the patient independently applied to P. A. Hertsen Moscow Scientific and Research Oncological Institute When examined on the skin of the left auricle, there is a tumor infiltration in the


**Рис.** Базальноклеточный рак кожи левого уха: a, b – опухоль до лечения; c, d – полная регрессия опухоли, контрольный осмотр через 6 мес после ФДТ.
**Fig.** Basal cell skin cancer of the left ear: a, b – tumor before treatment; c, d – complete regression of the tumor, follow-up examination 6 months after PDT.

region of the lower third of the tragus, intertragus notch, antitragus, earlobe with its partial destruction in the lower part and posterior surface of the ear in the projection of the shell. Tumor infiltration extends to the skin of the parotid region anteriorly (3.1x2.5 cm in size) and posteriorly (4.5x1.5 cm in size). There is ulceration in the area of the tumor. A cytological study was performed, according to which (No. 2717/2021) basal cell carcinoma was diagnosed.

Additional examination is carried out. According to CT scan of the facial area with intravenous contrast: in the parotid region on the left, a zone of skin ulceration is determined, with signs of thickening of the fiber, up to 7 mm deep, anterior-posterior size up to 25 mm, without convincing signs of infiltration into the surrounding structures, the distance to the parotid salivary gland is 3 mm. According to the ultrasound of the left parotid region and regional zones: in the soft tissues of the parotid region on the left, an ulcerous defect with dimensions of 24x32 mm is detected with complete destruction of the dermis and tumor spread into the subcutaneous fat to a depth of 6.4 mm. The edges of the ulcer are undermined. It does not grow into the parotid salivary gland. Along the vessels of the neck, moderately hyperplastic lymph nodes are determined on both sides, in the submandibular region and in the supraclavicular regions – no altered lymph nodes were detected. There are no focal formations and free fluid in the abdominal cavity.

The clinical situation was discussed at an extended consultation. Given the prevalence of the tumor process, the stage of the disease – T3N0M0, the patient was recommended to undergo surgical treatment, which the patient categorically refused, given its volume. As an alternative treatment option, it was decided to perform PDT.

On July 9, 2021, a course of PDT was performed with a photosensitizer based on chlorin e6.

After PDT, the patient came for follow-up examinations in accordance with the terms of observation. 3 months and 6 months after treatment, complete regression of the tumor was registered (Fig.), moderately pronounced cicatricial deformity in the PDT area. The patient remains under strict dynamic supervision.

## Conclusion

The above clinical observation demonstrates the effectiveness of the developed original PDT technique even in the case of local prevalence of basal cell skin carcinoma corresponding to T3N0M0. Achieving complete regression in such clinical situations is possible only with strict adherence to the recommended standardized PDT technology. Under these conditions, a high oncological result was obtained with the achievement of complete regression of the tumor, the absence of significant complications and a good cosmetic effect.

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