

## Clinical case of basal cell carcinoma therapy using 5 % imiquimod cream

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**Aim.** To describe clinical case of the basal cell carcinoma treatment, determine personalized diagnostic algorithm of the patient management with further selection of the therapy method regarding visual, dermatoscopic and pathomorphological picture of disease.

**Materials and methods.** The own observation of clinical case of local treatment of the patient with basal cell carcinoma by means of 5 % imiquimod cream was described.

**Results.** Based on comprehensive examination of the patient with determination of features of visual, dermatoscopic and pathohistological picture the diagnosis “Basal cell carcinoma, nodular variant” was determined. Taking into account considerable traumatization and possibility of functional motor impairment after surgery it was determined to replace the treatment approach with the local use of 5 % imiquimod cream according to the standardized scheme. Step-by-step application of topical agent on the upper part of BCC affected area had also influence on the non-treated zone which began to regress by itself starting from the 9<sup>th</sup> week.

Spontaneous regress of BCC stipulates rare and unusual course of disease. Control clinical and pathomorphological examination did not reveal any neoplastic processes in skin after 12 weeks course of treatment with 5 % imiquimod cream and within 1 year of further observation. In case of BCC the possibility of using topical agents increases therapeutic potential and compliance between doctor and patient.

**Conclusions.** Annual increase of quantity of new cases of non-melanoma skin tumours and variability of clinical implications enable the rise of oncological suspicion level among practicing physicians. Creation of personalized algorithm of diagnostics ensures making the diagnosis timely and selection of differential treatment approach. Neglecting the neoplasm with significant affected area size the topical use of 5 % imiquimod is the effective alternative to invasive intervention for treatment of patients with the basal cell carcinoma.

### Ключові слова:

базально-клітинна карцинома, новоутворення шкіри, топічна терапія.

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## Клінічний випадок терапії базально-клітинної карциноми з використанням 5 % крему іміквімоду

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**Мета роботи** – описати клінічний випадок лікування базально-клітинної карциноми (БКК), визначити персоніфікований діагностичний алгоритм ведення пацієнта з дальшим вибором методу терапії, спираючись на візуальну, дерматоскопічну та патоморфологічну картину захворювання.

**Матеріали та методи.** Навели власне спостереження клінічного випадку місцевого лікування хворої на базально-клітинну карциному з використанням 5 % іміквімод-крему.

**Результати.** На підставі всебічного обстеження хворого з визначенням особливостей візуальної, дерматоскопічної та патогістологічної картини встановили діагноз базально-клітинної карциноми, нодулярний варіант. Враховуючи чималу травматизацію та можливість функціональних рухових порушень після оперативного втручання, вирішили змінити тактику лікування на користь місцевого використання 5 % іміквімод-крему за стандартизованою схемою. Поетапне нанесення топічного засобу на верхню частину вогнища БКК вплинуло також на неліковану ділянку, що почала регресувати самостійно, починаючи з 9 тижня.

Спонтанний регрес БКК характеризує рідкісний і неординарний перебіг захворювання. Контрольне клінічне та патоморфологічне обстеження не показало жодних неопластичних процесів у шкірі після 12-тижневого курсу лікування 5 % іміквімодом, а також протягом 1 року спостереження. Можливість використання топічних засобів при БКК збільшує терапевтичний потенціал і комплаєнс між лікарем і пацієнтом.

**Висновки.** Щорічне збільшення кількості нових випадків немеланомних пухлин шкіри та варіабельність клінічних проявів зумовлюють підвищення рівня онконастороженості лікарів-практиків.

Створення персоніфікованого алгоритму діагностики забезпечить своєчасне встановлення діагнозу та вибір диференційованої тактики лікування. Незважаючи на чимале за площею ураження новоутворення, топічне використання 5 % іміквімод-крему – ефективна альтернатива інвазивним втручанням під час лікування пацієнтів із базально-клітинною карциною.

## Клинический случай терапии базально-клеточной карциномы с использованием 5 % крема имиквимода

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**Цель работы** – описать клинический случай лечения базально-клеточной карциномы (БКК), определить персонализированный диагностический алгоритм ведения пациента с дальнейшим выбором метода терапии, учитывая визуальную, дерматоскопическую и патоморфологическую картину заболевания.

**Материалы и методы.** Описано собственное наблюдение клинического случая местного лечения больной с базально-клеточной карциномой, используя 5 % крем имиквимод.

**Результаты.** На основании всестороннего обследования больной с определением особенностей визуальной, дерматоскопической и патогистологической картины установлен диагноз базально-клеточной карциномы, нодулярный вариант. Учитывая значительную травматизацию и возможность функциональных двигательных нарушений после оперативного вмешательства, решено изменить тактику лечения в пользу местного использования 5 % крема имиквимода по стандартизированной схеме. Поэтапное нанесение топического средства на верхний участок очага БКК повлияло также на нелеченную часть, которая начала регрессировать самостоятельно, начиная с 9 недели. Спонтанный регресс БКК характеризует редкое и неординарное течение заболевания. Контрольное клиническое и патоморфологическое обследование не показало неопластические процессы в коже после 12-недельного курса лечения 5 % имиквимодом, а также в течение 1 года наблюдения. Возможность использования топических средств при БКК увеличивает терапевтический потенциал и комплаенс между врачом и пациентом.

**Выводы.** Ежегодное увеличение количества новых случаев немеланомных опухолей кожи, а также вариабельность клинических проявлений способствуют повышению уровня онконастороженности среди практических врачей. Создание персонализированного алгоритма диагностики обеспечит своевременную постановку диагноза и выбор дифференцированной тактики лечения. Несмотря на значительное по площади поражения новообразование, топическое использование 5 % крема имиквимода – эффективная альтернатива инвазивным вмешательствам при лечении пациентов с базально-клеточной карциномой.

**Ключевые слова:** базально-клеточная карцинома, новообразования кожи, топическая терапия.

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Basal cell carcinoma (BCC) belongs to the most common skin tumour which is formed from basal layer of epidermis and defined by rapid growth and evident destructive component. BCC makes approximately 75 % of all cases of non-melanoma skin tumours [1]. In population-based cohort study which was carried out in Olmsted County, Minnesota within 2000–2010 G. Muzic et al. showed that in comparison with 1976–1984 number of basal cell carcinomas had increased by 145 % [2]. According to data of National Cancer Register in 2018, in Ukraine 181 709 persons with non-melanoma skin tumours were registered [3]. More frequently BCC is detected among adults, mainly males [4]. Risk factors of formation of this neoplasm are the age, characteristics of skin phototype, presence of immunosuppression and increased insolation. Thus, the open parts of body susceptible to excessive influence of solar radiation are the most common location of basalioma. BCC has relatively favorable prognosis and cases of metastasis are almost absent [5].

Clinically the following forms are defined: superficial, nodular, sclerodermoid basal cell, pigmented, locally spread, metastatic, metatype or base squamosal and Pinkus tumour. Histologically subtypes of BCC are divided depending on incidence of recurrent disease. Base squamosal carcinoma, sclerodermoid basal cell, infiltrative, micronodular and BCC with sarcomatoid differentiation are referred to high risk group. Nodular, superficial, pigmented, fibroepithelial variants and BCC with involvement of appendages have the low level of reappearance [6]. Variability of clinical implications causes diagnostic errors and wrong selection of the treatment approach.

### Aim

To describe clinical case of basal cell carcinoma treatment, determine personalized diagnostic algorithm of patient

management with further selection of the therapy method based on visual, dermoscopic and pathomorphological picture of disease.

### Materials and methods

Own observation of the clinical case of local treatment of patient with basal cell carcinoma using 5 % imiquimod cream is described. Examination and treatment were made on the basis of Department of Dermatovenerology and Cosmetology with the Course of Dermatovenerology and Aesthetic Medicine of the Faculty of Postgraduate Education and Municipal Institution “Zaporizhzhia Regional Dermatovenerological Clinical Dispensary” of Zaporizhzhia Municipal Council.

### Clinical case

Patient A, born in 1980, with complaints of available neoplasm on the shoulder skin visited dermatovenerologist of Regional Dermatovenerological Clinical Dispensary. From the case history it is known that for the first time she had noticed the affected area 5 years ago but hadn't asked for professional aid and hadn't treated it by herself. During last 1.5 years the patient had noticed the increase of neoplasm size. At the moment of examination on the right shoulder skin there was the plaque up to 5–6 cm in diameter with distinct limits of hot pink color with partially available crusts, swelling at the edges stipulated by more evident infiltration (*Fig. 1*).

Dermatoscopically the following patterns were observed: gray-blue spots and ovoid structures, single focuses of pigmentation in form of “maple leaf” and also branched tree-shaped vessels associated with erythema, focally located erosions.



Fig. 1. BCC at the beginning of the therapy.



Fig. 2. In two weeks after beginning of the treatment.



Fig. 3. End of the 9<sup>th</sup> week of the treatment.



Fig. 4. The 12<sup>th</sup> week of the treatment.



Fig. 5. In 2 months after the treatment was complete.



Fig. 6. In 1 year after the treatment was complete.

In order to verify the diagnosis, the morphological study by means of the skin punch biopsy was performed. Presence of tumour meeting the basal cell carcinoma by its histological structure was determined in specimen of derma.

The pathohistological conclusion: basal cell carcinoma, nodular variant (ICD-O 8097/3). Surgical procedure for removal of the neoplasm was proposed to the patient. But the patient refused the invasive treatment, taking into account sizes of BCC, probability of formation of the rough painful scar in future and occurrence of functional motor impairment of the upper limb. Based on flat refusal of the patient to have surgical procedure and impossibility of treatment in the Regional Cancer Centre (for family reasons) it was decided to assign therapy with topical use of 5% imiquimod cream.

In connection with the size of affected area it was proposed to use step-by-step treatment of basal cell carcinoma. Conventionally the neoplasm was divided into two parts, 5% imiquimod cream was applied only to the area of 2 × 3 cm in size in the upper part of BCC. Topical treatment was made according to the following scheme: the cream was applied one time per day, every

day within 5 days with further 2-day break in therapy. In two weeks of treatment it was noted that the affected area size had increased almost twice due to the evident inflammation as the expected result of imiquimod use (Fig. 2).

It is rather non-typical that starting from the 9<sup>th</sup> week of local therapy the part of basal cell carcinoma which was not involved in treatment started to regress by itself. (Fig. 3).

Complete course of imiquimod use was 12 weeks (Fig. 4).

In 2 months after the treatment was complete the skin specimens were taken from 4 different parts of affected area by means of punch biopsy method in order to check quality of the therapy (Fig. 5). Pathohistologically the basal cell carcinoma signs were not detected in any specimen. During control examination of the patient in 6 and 12 months no signs of progression of the affected area or formation of new BCC were detected (Fig. 6)

## Discussion

Annual increase of number of the basal cell carcinoma new cases promotes the introduction of precise and re-



liable methods in patient examination algorithm. Clinical picture is rather unstable, thus, focusing only on examination of the patient it is possible to make errors in detection and further management of such patients.

If the signs of multiple BCC are revealed in young age it is necessary to perform differential diagnostics with genodermatoses. Gorlin-Goltz syndrome is inherited autosomal dominant disease for which (except for great number of BCC) the concomitant lesions of skeletal, central nervous, urogenital and cardiovascular systems are typical. Bazex-Dupre-Christol and Rombo syndromes are very rare nosologies [7].

Differential diagnostics of the basal cell carcinomas and tumours of hair follicles (trichoepitheliomas, trichoblastomas), squamous cell carcinomas, Merkel cell carcinomas is difficult both for clinical physicians and pathologists [8,9].

In order to improve diagnostic measures in addition to the visual assessment of neoplasms there are dermatoscopy and pathomorphological study which promote selection of not only well-grounded but personal scheme of treatment.

Assessment of dermatoscopic picture increases probability of establishing a correct diagnosis. The present non-invasive diagnostic method has sensitivity of 91.2 % and specificity of 94.8 % during examination of the basal cell carcinomas. Increase of the method sensitivity was registered in case when dermatoscopy was performed by skilled specialists based on personal dermatoscopy but not studying only the increased image of neoplasm [10]. Besides J. A. Aguilar et al. determined dermatoscopic patterns of the basal cell carcinoma which are predictors of clinical response for the therapy with imiquimod. Available focally located gray spots and multiple erosions up to 2 mm are the most typical BCC signs which have a good reaction on the local treatment [11].

The "gold standard" in BCC diagnostics is the pathomorphological study for determination of neoplasm type that is not only prognostic marker but also indicator of treatment method selection [12]. According to data of M. C. Cameron et al. 50–80 % of affected areas is the nodular type whereas 10–30 % is referred to the superficial basal cell carcinoma [13].

Selection of the treatment method depends on results of diagnostics and assessment of general state of the patient and availability of comorbid pathology. Thus, the first line of therapy is the standard surgical excision and Mohs surgery especially if high risk BCC subtype is available. According to data of C. H. Williams et al. five-year indicator of successful application of imiquimod in case of nodular and superficial variants made 82.5 % whereas for the surgery it made 97.7 % [14].

If the patient has low risk BCC or concomitant factors that is the contraindication for application of invasive methods the topical therapy will be used. For this treatment it is reasonable to use imiquimod, 5-fluorouracil locally or photodynamic therapy [15,16]. Jansen H. E., Maud et al. showed that possibility of absence of tumour in 5 years after treatment of superficial BCC for photodynamic therapy with methyl-aminolevulinic acid made 62.7 %, for imiquimod – 80.5 % and 70 % for 5-fluorouracil. The best indicator of efficiency is the therapy with use of topical

imiquimod [17]. Timely detection, diagnostics of the skin neoplasms is the basis for rational and reasonable selection of the treatment approach.

## Conclusions

1. Considerable spreading and variability of the clinical picture of basal cell carcinomas promotes formation of diagnostic algorithm for timely verification of diagnosis and selection of differential approach for the treatment.

2. The main components of diagnostic measures in case of BCC are thorough inspection of the affected area, dermatoscopic and pathomorphological observation.

3. Neglecting the neoplasm with significant affected area size the topical use of 5 % imiquimod is the effective alternative to invasive intervention for treatment of patients with the basal cell carcinoma that increases compliance between doctor and the patient.

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