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EXPERTS` OPINION

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Recommendations on the treatment of basal cell carcinoma and squamous cell carcinoma prepared by the Oncology Department of the Polish Dermatology Society and the Melanoma Academy Department of the Polish Society of Oncological Surgery

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ABSTRACT

Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are the most frequent malignant neoplasms among Caucasian patients. Despite the fact that they seldom metastasise and are not directly fatal, they constitute a significant clinical issue. Such cancers infiltrate surrounding tissues and destroy the surrounding structures, e.g. bones and cartilages, as a result of which such structures develop into severe aesthetic defects and significantly deteriorate the life quality of the patients. Among patients from the high-risk group (namely patients under chronic immunosuppression or those genetically predisposed to develop UV-induced skin cancers) skin cancers may be aggressive and fatal. The Oncology Department of the Polish Dermatology Society (Polish: Sekcja Onkologiczna Polskiego Towarzystwa Dermatologicznego — PTD) and the Melanoma Academy Department of the Polish Society of Oncological Surgery (Polish: Sekcja Akademia Czerniaka Polskiego Towarzystwa Chirurgii Onkologicznej — PTChO), based on the current European guidelines, American recommendations of the National Comprehensive Cancer Network (revision 1.2015), and interventional reviews of publications elaborated by the Cochrane Skin Group, attempted to systemise the diagnostic and therapeutic procedures and determine homogenous rules of primary and secondary prevention in patients suspected/diagnosed with a basal cell or squamous cell carcinoma. This paper presents actual recommendations regarding skin cancer diagnosis and treatment, taking all related benefits and challenges into consideration, as well as recommendations for post-treatment patient monitoring.

Key words: basal cell carcinoma — BCC, squamous cell carcinoma — SCC, diagnosis, treatment

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Introduction

Basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) are the most frequent malignant neoplasms among Caucasian patients. Despite the fact that they seldom metastasise and are not directly fatal, they constitute a significant clinical issue. Such cancers infiltrate surrounding tissues and destroy the surrounding structures, e.g. bones and cartilages, as a result of which such structures develop into severe aesthetic defects and significantly deteriorate the life quality of the patients. Among patients from the high-risk group (namely patients under chronic immunosuppression or those genetically predisposed to develop UV-induced skin cancers) skin cancers may be aggressive and fatal. It should also be underlined that melanomas are more frequent among patients who have previously suffered from a skin cancer, compared to the general population [1].

The Oncology Department of the Polish Dermatology Society (Polish: Sekcja Onkologiczna Polskiego Towarzystwa Dermatologicznego — PTD) and the Melanoma Academy Department of the Polish Society of Oncological Surgery (Polish: Sekcja Akademia Czerniaka Polskiego Towarzystwa Chirurgii Onkologicznej — PTChO), based on the current European guidelines, American recommendations of the National Comprehensive Cancer Network (revision 1.2015), and interventional reviews of publications elaborated by the Cochrane Skin Group, attempted to systemise the diagnostic and therapeutic procedures and determine homogenous rules of primary and secondary prevention in patients suspected/diagnosed with a basal cell or squamous cell carcinoma. It should be underlined that this paper will not cover the issue of pre-malignant conditions (e.g. actinic keratosis) or squamous cell carcinomas situated in the genital area, nail beds, or in the mouth.

Epidemiology

Skin cancers make up 75% of all diagnosed malignancies [2]. The risk of developing this type of tumour throughout life (in Caucasian patients) exceeds 20%. The cancer incidence rate grows with increasing age (most cases are diagnosed in people in their eighties). In 2011, a total of 11,439 new cases (5408 in male patients and 6031 in female patients) were noted in Poland, translating into morbidity of 7.5% and 8.3%, respectively [2, 3]. Unfortunately, a significant underestimation should be expected due to faulty reporting to the National Register of Cancers.

Basal cell carcinoma is definitely the most common skin cancer, constituting approximately 80% of all skin cancers. Squamous cell carcinoma holds the second position, constituting approximately 15–20% of skin cancers [2]. Other forms are significantly more seldom [4].

Risk factors

Rapidly increasing BCC and SCC morbidity is caused mostly by excessive exposure to UV light. The main reasons of increasing frequency of skin cancers are usually related to changes in lifestyle including dressing style, "fashionable" suntan, migration of people with first, second, and third skin phototype to regions with extensive solar exposure, permanent stays in the mountains or low latitude, and using UV-emitting lamps (solariums). An important risk factor of BCC and SCC comprises also the occupational exposure to UV light among people working outside without using any photoprotection [5]. Table 1 presents skin cancer risk factors.

Diagnostics

Primary diagnosis is determined based on the history and clinical image typical for BCC and SCC. 80% of skin cancers are located on the head and neck, while the remaining 20% are located on the extremities and torso [3, 5]. It should be underlined that melanoma risk is also higher in the latter group.

Skin cancers often develop in several lesions. This concerns in particular patients in their seventies with severe skin photodamage. Quite often such patients are diagnosed with up to more than a dozen lesions of basal cell carcinoma, multiple actinic keratosis lesions, as well as Bowen's disease or melanomas. Therefore, a thorough history and physical examination are extremely important. Considering the proven usability of dermatoscopy in early skin-tumour diagnostics, it is recommended to deem such a simple and non-invasive diagnostic method as a permanent element of the physical examination [7–9]. It is extremely important to perform the dermatoscopy in atypical cases, requiring the exclusion of lesions with different aetiology (differential diagnostics) to assess small lesions and to differentiate actinic keratosis lesions from pre-invasive SCC (in situ). The examination should also be used to assess the lesion dimensions prior to the treatment, to assess how radical the treatment should be, and to monitor the patient's condition following the treatment.

Another non-invasive diagnostic procedure, confocal laser scanning microscopy, due to its limited availability is still used mainly for research.

In ambiguous cases or to select the appropriate therapeutic model, histopathological examination of the skin lesion sample remains the "gold standard". The histopathological type of the tumour as well as its severity with the assessment of the patient's condition are crucial for the following decisions to be made.

A suspected invasive lesion (with the following signs and symptoms: deep infiltration, involvement of the tissues and structures below/surrounding the tumour

Table 1. Skin cancer risk factors [6]

Skin cancer risk factors		SCC	BCC
Environmental factors	Cumulative UV dose		×
	Intensive interrupted sunbathing	×	
	Ionising radiation	×	×
	Exposure to chemicals*	×	(×)
	HPV Infections	×	
Genetic factors	Nicotinism	×	
	Skin phenotype 1	×	×
	Papery and pigment skin	×	×
	"Eye and skin" albinism	×	(×)
	Epidermodysplasia verruciformis	×	
	Epidermolysis bullosa	×	
	Ferguson-Smith syndrome	×	
	Muir-Torre syndrome	×	(×)
	Bazex syndrome		×
	Rombo syndrome		×
	Gorlin-Goltz syndrome		×
Chronic skin conditions	Chronic non-healing skin ulcerations	×	
	Persisting:		
	— skin lupus erythematosus		
	— lichen planus (erosivus)	×	
	— lichen sclerosis		
	Porokeratosis	×	
	Nevus sebaceus		×
Immunosuppression	Status-post organ transplantation	×	(×)
	Other types of immunosuppression, e.g. AIDS, HPV infection	×	

*Chemicals: arsenic, mineral oil, coal tar, soot, nitric yperite, aromatic polycyclic compounds — biphenyl derivatives, 4,4'bipyridyl, psoralen (including UVA) [1, 2, 4–6]

— i.e. muscles, bones, nerves, lymph nodes, eyeball) constitutes an indication to extend diagnostics with imaging (CT, MRI) [1, 4, 5, 7, 10–12]. If the physical examination or imaging show enlarged regional lymph nodes, fine-needle biopsy should be performed or the whole lymph node should be sampled for histopathological examination [1, 4].

The next stage consists of the assessment of prognostic factors for individual neoplastic lesions, allocating the tumours to high- or low-risk group (Table 2 and 3) and in the severity assessment according to the American Joint Committee on Cancer (AJCC) revision 2009 (Table 4).

In a prospective study lasting 20 years (average period 43 months) on 615 patients, Brantsch et al. proved a correlation between the infiltration depth of the SCC and frequency of local recurrence/spread. If the infiltration depth did not exceed 2 mm, the recurrence rate was 0%. If the infiltration depth was 2.1 mm up to 6 mm — the recurrence rate was 4%, while in the case of the infiltration depth exceeding 6 mm — it was 16%. The tumour's invasive severity was also correlated with the Clark scale infiltration depth. The factors listed above are significant for the prognosis.

Diagnostic and therapeutic recommendations

Radical tumour resection constitutes the superior treatment objective in skin cancer patients. Therefore, more radical methods with the lowest local failure risk should be the first choice.

The treatment should be selected based on:

— clinical assessment, quantity, and dimensions of the skin cancer lesions;
— histopathological type;
— neoplasm invasiveness, risk of its local and distant recurrence (risk of distant metastasis or local recurrence);

Table 2. Risk assessment in the case of squamous cell carcinoma [1, 3, 4]

Risk factors for local and distant recurrence of SCC		
Location and dimensions	**Low-risk lesion**	**High-risk lesion**
	Region L< 20 mm	Region L ≥ 20 mm
	Region M < 10 mm	Region M ≥ 10 mm
	Region H < 6 mm	Region H ≥ 6 mm
Edges	Sharp, well defined	Ill-defined edges
Primary/recurrent tumour	Primary	Recurrent
Immunosuppression	No	Yes
Previous radiotherapy or chronic inflammation within the tumour	No	Yes
Rapid growth of the tumour	No	Yes
Neurological signs and symptoms	No	Yes
Histological differentiation	Well or moderately differentiated G1, G2	Poorly differentiated G3
Tumour thickness	< 2 mm	≥ 2 mm
	Clark level I–III	Clark level IV–V
Nerve and vessel infiltration	No	Yes
Histopathological type	— metatypicus	— acantholiticus
	— verrucosus	— desmoplasticus
	— fusiformis	— adenoidalis, adenoidosquamousus
	— mixtus	— mucosoadenoidalis
		— fusiformis (post-radiotherapy)

Region L: torso and extremities, excluding anterior crus, hands, feet, ankles, and nails
Region M: middle area of the face, cheeks, forehead, haired skin on the head, neck, and anterior crus
Region H: head and neck excluding region M, genital area, hands, and feet

Table 3. Risk assessment for basal cell carcinoma [1, 3, 4]

BCC recurrence risk factors		
Location and dimensions	**Low-risk lesion**	**High-risk lesion**
	Region L< 20 mm	Region L ≥ 20 mm
	Region M < 10 mm	Region M ≥ 10 mm
	Region H < 6 mm	Region H ≥ 6 mm
Edges	Sharp, well-defined	Ill-defined edges
Primary/recurrent tumour	Primary	Recurrent
Immunosuppression	No	Yes
Previous radiotherapy	No	Yes
Histopathological type	— superficial	— cicatricial
	— follicular	— sclerodermal
	— fibroepithelioma	— metatypic
	— keratising	— infiltrating
	— folliculocystic	— nodular lesions in any tumour region
Nerve infiltration	No	Yes

Region L: torso and extremities, excluding anterior crus, hands, feet, ankles and nails
Region M: middle area of the face, cheeks, forehead, haired skin on the head, neck, anterior crus
Region H: head and neck excluding region M, genital area, hands and feet

Table 4. Skin cancer advancement (2009)

T (PRIMARY LESION)*

Tx	No assessment possibility
T0	No signs of primary lesion
Tis	Cancer in situ
T1	Tumour with the maximum dimensions of ≤ 2 cm and < 2 high risk factors#
T2	Tumour with the maximum dimensions of > 2 cm or a tumour with any dimensions with ≥ 2 high risk factors#
T3	Tumour with jaw, mandibular, orbital cavity, or temporal bone infiltration
T4	Tumour with spine infiltration or nerve infiltration into the skull base

*Shall not apply to the clinical picture of the squamous cell carcinoma of an eyelid; #high-risk factors for the primary lesion (T)

High risk factors

Depth of the primary lesion infiltration	> 2 mm
Clark infiltration level ≥ IV	Nerve area infiltrations
Lesion locations	Auricle Vermilion zone Vermilion border
Differentiation	Poorly or non-differentiated

N (REGIONAL LYMPH NODES)

Nx	No assessment possibility
N0	No metastases to lymph nodes
N1	Metastasis to a single lymph node, within the confluence on the side of the primary lesion, lymph node dimensions ≤ 3 cm in its largest dimension
N2	Metastasis to a single lymph node within the confluence on the side of the primary lesion, lymph node dimensions > 3 cm and < 6 cm; alternatively, metastases to multiple lymph nodes on the side of the primary lesion with no lymph node exceeding 6 cm; alternatively, bilateral metastases or metastases to the side opposite to the primary lesion, with the lymph node dimensions < 6 cm
N2a	Metastasis to a single lymph node within the confluence on the side of the primary lesion, lymph node dimensions > 3 cm and < 6 cm
N2b	Metastases to multiple lymph nodes on the side of the primary lesion with no lymph node exceeding 6 cm
N2c	Bilateral metastases or metastases to the side opposite to the primary lesion with the lymph nodes not exceeding 6 cm
N3	Metastasis to a lymph node with the dimensions > 6 cm in its largest dimension

M (DISTANT METASTASIS)

M0	No metastases
M1	Metastases

SEVERITY LEVELS OF A MALIGNANCY

Level 0	Tis	N0	M0
Level 1	T1	N0	M0
Level 2	T2	N0	M0
Level 3	T3	N0	M0
	T1	N1	M0
	T2	N1	M0
	T3	N1	M0
Level 4	T1	N2	M0
	T2	N2	M0
	T3	N2	M0
	T each	N3	M0
	T4	N each	M0
	T each	N each	M1

HISTOPATHOLOGICAL TUMOUR MALIGNANCY GRADES (G)

Gx	Assessment is impossible
G1	Well differentiated
G2	Moderately differentiated
G3	Poorly differentiated
G4	Non-differentiated

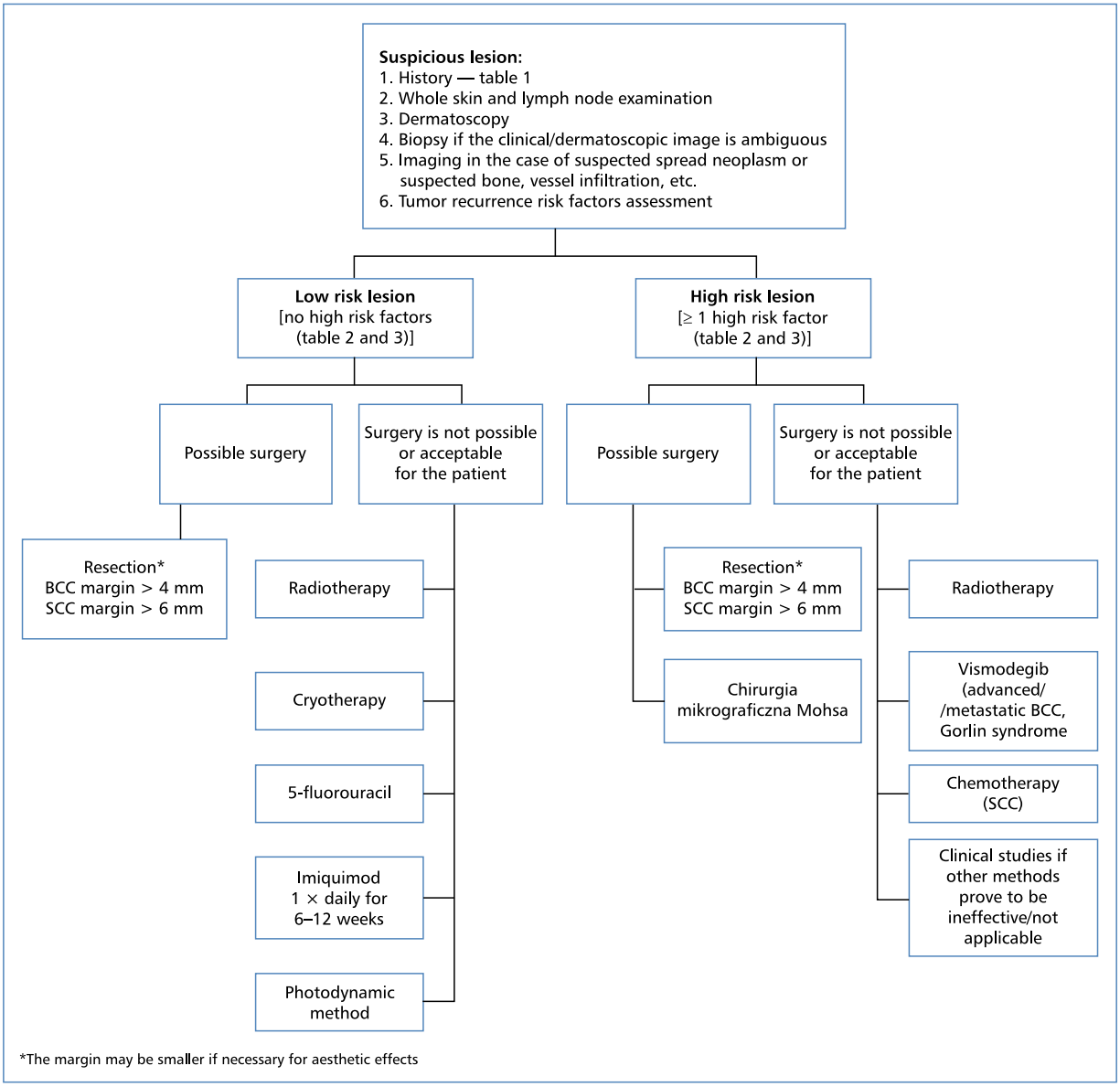

Figure 1. Recommended diagnostic and therapeutic actions recommended in the case of suspected skin cancer

— maintenance of the organ/body part functions and the final effects of the treated area;
— therapy effectiveness assessed as the percentage of recurrence within 4–6 months and 3–5 years (verified with physical examination, dermatoscopy, and histopathological examination);
— treatment tolerance (pain, treatment period, adverse reactions, risk of complications);
— availability of a given therapeutic method;
— patient's immune competence;
— individual preferences of the patient.

Surgery often constitutes the fastest and the most effective method of curing the condition; however, the doctor deciding on the strategy of treatment should consider mainly: the patient's (old) age and multiple internal conditions, and psychological and aesthetic issues. Therefore, in some cases other methods of treatment, alternative to surgery, are acceptable (mainly in the case of cancers with low recurrence risk).

It should be underlined that high-quality comparative research of various skin cancer treatment methods is yet to be done. Most publications refer to the lesions with a low recurrence risk/invasiveness. Surgical treatment of skin cancer (except for inoperable lesions) remains the "gold standard" [1, 4, 5, 7].

Skin cancer treatment — basic treatment

Resection with histopathological assessment of surgical margin

This is the most common skin cancer treatment method (for both low and high recurrence-risk cancers). A surgical margin of no less than 4 mm is recommended for BCC and a margin of 6 mm for SCC. In the case of high-risk cancers, intraoperative radicality control (Mohs micrographic surgery) is recommended. If this is not possible, wider resection margins are recommended — 10 mm. If such extended margins of unaffected skin to be resected affect the aesthetics, radical resection with lower margins may be considered (R0 margins — the histopathological examination showed no neoplastic cells within the margin) — the margin required under the Mohs micrographic surgery. Mohs micrographic surgery consists of tumour resection in layers with intraoperative assessment of the frozen section of the tumour bed edges and bottom. Individual sections are carefully marked so that, following the results obtained, only the margins are extended, where neoplastic cells were found. Such a procedure allows for radical tumour resection saving the healthy tissues to the greatest extent possible [1, 4, 5, 7, 10].

Radiotherapy

Independent radiotherapy may be applied for both BCC and SCC (with both low and high recurrence risk) in patients over the age of 60 years as an alternative to primary tumour resection. This method is particularly applicable in Bowen's disease patients, in the case of large tumour or with multiple focal lesions, or when the patient refuses to agree to the resection.

Augmentation radiotherapy is used in the case of locally and regionally advanced skin cancers (in particular in the case of nerve infiltration diagnosed), following lymphadenectomy due to SCC metastases to the regional lymph nodes, as well as when the surgery was not radical and surgical radicalisation is not possible. The method is also recommended in the case of skin tumour resection with Mohs micrographic surgery.

The disadvantages of radiotherapy include early stage and delayed complications that tend to increase in severity in time. They comprise mainly: dermal necrosis, radiation dermatitis of the mucosa, and pigmentation (permanent skin discolorations).

Radiotherapy contraindications include:
- genetic factors predisposing basal cell carcinoma conditions;
- xeroderma pigmentosum;
- age below 60 years (relative contraindication);
- cicatricial basal cell carcinoma;
- lesions in the following areas: auricle, hands, feet, extremities, and genital area.

Chemotherapy

There are no data available on spreading SCC patients, which would unambiguously confirm the cisplatin monotherapy or a chemotherapy with cisplatin combined with 5-fluorouracil, interferon, cis-retinoic acid. There are communications on the possible effectiveness of the EGFR inhibitors (cetuximab, gefitinib) available; however, additional clinical studies are required in that respect [1, 4–7, 10, 11, 13].

Hedgehog pathway inhibitors

In patients genetically predisposed to multiple BCCs (Gorlin and Goltz syndrome), in patients suffering from spreading BCC, as well as in patients with regionally advanced BCC, who exhausted the possibilities under surgical and radiological therapies, therapy with vismodegib is possible (microparticle Hedgehog pathway inhibitor). The medicine (in the dose of 150 mg/d) prolonged the condition's progress with an objective response rate of 30% to 60%. The most common adverse events reported during the vismodegib therapy (in > 30% of patients) include muscle spasms, balding, taste disorders, weight loss, fatigue, and nausea [14–16]. Another Hedgehog pathway inhibitor already registered in the United States is sonidegib [14–17].

Clinical studies

For regional or systemic BCC or SCC patients who exhausted their therapeutic possibilities, inclusion into the clinical studies should be considered [1, 4, 14, 15, 17, 18].

Skin cancer treatment with irradiation and/or chemotherapy and targeted treatment should be conducted in high profile centres.

Skin cancer treatment — superficial methods

In the case of low recurrence risk BCC and SCC, superficial methods may be considered. Due to their poorer effectiveness, they should be limited to those patients for whom the basic (mainly surgical) treatment methods are contraindicated. The superficial treatment may also be considered in patients with superficial low recurrence risk basal cell carcinoma, if the expected aesthetic effect is more acceptable.

5-fluorouracil

This medicine is used in the treatment of actinic keratosis, superficially spreading basal cell carcinoma, and squamous cell carcinoma in situ. The medicine is administered twice daily for 4, 6, or 11 weeks in the case of superficial BCC (comprehensive response is obtained in 90% of patients). In the case of the actinic keratosis, the medicine is administered for 2–4 weeks on average (comprehensive response in 82% of skin lesions) [1, 4–7, 10, 11, 19].

Imiquimod (5%)

This medicine is used in the treatment of the actinic keratosis, SCC in situ/Bowen's disease, and non-invasive superficially spreading BCC. The cream is applied for a longer period (studies have shown that treatment prolongation from 6 to 12 weeks is more effective) and more often (once or twice daily), resulting in decreased risk of ineffective treatment. Its application in occlusion for the superficial and nodular form of BCC with diameter up to 2 cm is similarly effective. For example, in 84% of superficial BCC patients, the symptoms did not recur for five years. In the case of immune competent patients only the cream is applicable, while in the case of patients taking immunosuppressants, the treatment with imiquimod should be combined with cryosurgery, Mohs microsurgery, or photodynamic method [1, 4–7, 10, 11, 19].

Photodynamic method

In the case of skin cancers, the method is recommended for the treatment of superficially spreading and nodular BCC as well as SCC in situ/ Bowen's disease and actinic keratosis. Aminolevulinic acid (ALA) and methyl aminolevulinate (MAL) are used with that method. Lamps or lasers may constitute the light source. A randomised multi-centre study assessed the treatment effectiveness of 601 lesions of the superficially spreading BCC. The cancer remitted in 72.8% of patients treated with MAL-PDT (two cycles with a week's break) compared to 83.4% of patients treated with imiquimod (five times a week for six weeks) and 80.1% of patients treated with 5-fluorouracil (twice daily for fourweeks) [1, 4, 20, 21].

Other studies have shown the effectiveness of the photodynamic method (defined as the comprehensive response percentage after three months and two years) in the treatment of actinic keratosis (93% and 69%, respectively), Bowen's disease (93% and 68%, respectively), as well as superficial BCC (93% and 85%, respectively) and nodular BCC (75–82% and 77%, respectively, after 60 months) [20, 21].

The consensus on the treatment of the BCC patients suffering from Gorlin and Goltz syndrome with the photodynamic method was published in 2013. Based on the analysis of nine reviews summarising the results of 83 patients, the photodynamic method was deemed to be safe and effective in the treatment of superficially spreading and nodular BCC with the infiltration depth not exceeding 2 mm. The authors of the consensus recommended determining the frequency of the follow-up appointments depending on the number of BCC lesions, recurrence frequency, and location of the lesions. The possibility of treating many lesions simultaneously was underlined as a significant advantage of the photodynamic method [22].

The effectiveness of assessment of the topical treatments of Bowen's disease was published in 2013, based on the analysis of randomised controlled studies estimating the treatment effectiveness following 12 months of treatment. A lack of high quality studies was indicated. The publications available allowed for provision of higher effectiveness of the MAL-PDT treatment compared to cryotherapy as well as similar effectiveness compared to 5-FU and similar effectiveness of 5-FU and cryotherapy [11, 20].

On the other hand, the meta-analysis of the actinic keratosis treatment effectiveness on the face and/or head with MAL-PDT compared to other procedures was published in 2014. After three months following the therapy completion, the PDT effectiveness was 14% higher compared to cryotherapy [23].

A systematic review of studies assessing the topical treatment of the actinic keratosis lesions following three months and two years published in 2012 showed the effectiveness of all the methods under analysis, with the best aesthetic effects obtained with PDT and imiquimod [20]. The photodynamic method was recommended for small areas because it proved to be more effective than cryotherapy. On the other hand, topical treatment (imiquimod, 5FU, 3% diclofenac, ingenol mebutate) was recommended for large skin areas because they were proven to be similarly effective [13, 18, 23].

Cryotherapy

Cryotherapy is a technique leading to neoplastic cell necrosis by decreasing the tissue temperature down to –50° or even –60°C. It is used in the treatment of superficial skin cancers with low recurrence risk and dimensions not exceeding 2 cm, as well as actinic keratosis lesions. It is not recommended for nodular cancers. The variety of the cryotherapies available makes the effectiveness of the method presented in various studies incomparable [1, 4, 7].

Remarks

Due to the lack of reliable scientific evidence based on randomised clinical studies showing the effective-

ness of skin cancer treatment with curettage or electric destruction, unlike the recommendations of the EU and NCCN, the Oncology Department of the PTD as well as the Melanoma Academy Department of the PTChO do not recommend those methods.

For the same reasons, the Oncology Department of the PTD as well as the Melanoma Academy Department of the PTChO does not recommend any other methods of neoplastic tissue destruction with laser therapy, dermabrasion, and chemical peeling (with trichloroacetic acid), rendering the treatment radicality control impossible.

Several randomised studies assessing the effectiveness of intralesional interferon injections in the treatment of BCC, despite moderate effectiveness in the treatment of small superficial and nodular BCCs, were bound to a high percentage (approximately 30%) of early stage failures and frequent adverse reactions. Therefore, the Oncology Department of the PTD as well as the Melanoma Academy Department of the PTChO do not recommend that therapeutic method [1, 2, 4–7, 10, 11].

Monitoring following completed oncological treatment

The requirement of strict monitoring of skin cancer patients is mostly due to the following reasons:
— 30–50% of skin cancer patients will develop a lesion of a similar cancer within the next five years;
— 70–80% of SCC recurrences occur within the first two years of monitoring;
— skin cancer patients are 10-times more likely to develop a skin cancer again compared to the general public;
— the risk of developing melanoma is higher in skin cancer patients;
— high risk of invasive forms of SCC is typical for patients undergoing chronic immunosuppression.

Any suspected recurrence of skin cancer should be confirmed with histopathological examination. Dermatoscopic examination often allows precise determination of the biopsy site and diagnosis of a recurrence at an early stage [10, 11].

If enlarged lymph nodes are found, a fine-needle biopsy (more seldom the whole lymph node should be taken for histopathological examination) and imaging (CT, MRI) should be performed to assess the severity of the condition [1, 4, 5, 7].

Rules of monitoring following the treatment

A. BCC or SCC:
— photoprotection with SPF 30–50+ throughout the year;
— self-control by the patient once a month;
— dermatological and dermatoscopic examinations of the whole body every 4–6 months for 5 years, and every 6–12 month for the rest of the patient's life.

B. Regionally advanced/spreading BCC or SCC:
— photoprotection with SPF 30–50+ throughout the year;
— self-control by the patient once a month;
— dermatological and dermatoscopic examinations of the whole body: every 1–3 months for the first year, every 2–4 months during the second year, every 4–6 months during the third year, and every 6–12 months for the rest of the patient's life;
— multidisciplinary care (mainly of: a dermatologist, an oncologist, a radiotherapist, a neurologist, and an ophthalmologist).

Monitoring patients after organ transplantation during chronic immunosuppression:
— photoprotection with SPF 30–50+ throughout the year;
— self-control by the patient once a month;
— dermatological and dermatoscopic examinations of the whole body: every 6–12 months for the rest of the patient's life;
— in the case of a skin cancer, the control is recommended every 3–6 months for the rest of the patient's life.

Monitoring patients genetically predisposed to develop skin cancer:
— photoprotection with SPF 30–50+ throughout the year;
— self-control by the patient once a month;
— dermatological and dermatoscopic examinations of the whole body: every 3–6 months for the rest of the patient's life;
— in xeroderma pigmentosum patients — considering reversal of the daily schedule and absolutely avoiding UV, IR, and X-ray radiation exposure at work.

Skin cancer prevention

Primary prevention:
— strict dermatological monitoring of patients genetically predisposed to developing UV-induced skin cancer and patients undergoing a chronic immunosuppression;
— educating society about correct photoprotection and the possibilities of early diagnostics of skin cancers [22, 24].

Secondary prevention:
— educating patients about correct photoprotection;
— educating patients about the skin cancer signs and symptoms as well as the requirement to self-control;

— regular monitoring appointments with a dermatologist and with dermatoscopy according to the schedule [8, 9, 24];
— in the case of the patients undergoing chronic immunosuppression with the signs of actinic keratosis and/or NMSC, considering the treatment modification with reduction of the doses of calcineurin inhibitors and/or antimetabolites for the benefit of mTORs [23].

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