

SYSTÉMOVÁ LIEČBA POKROČILÉHO SPINOCELULÁRNEHO KARCINÓMU KOŽE

I. Andrašina

LF UPJŠ, VOU a.s. Košice

Košice, 13.10. 2020

Vyhlásenie o konflikte záujmov autora

Nemám potenciálny konflikt záujmov

Deklarujem nasledujúci konflikt záujmov

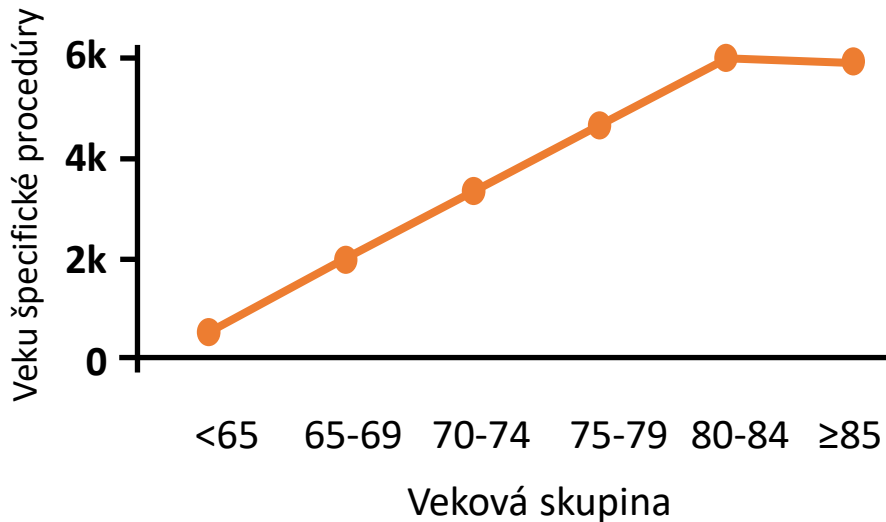
| Forma finančného prepojenia | Spoločnosť |
|---|------------|
| Participácia na klinických štúdiách/firemnom grante | |
| Nepeňažné plnenie (v zmysle zákona) | |
| Prednášajúci | |
| Akcionár | |
| Konzultant/odborný poradca | |
| Ostatné príjmy (špecifikovať) | |

**Prezentácia je podporená spoločnosťou
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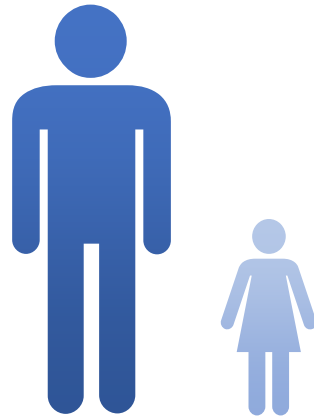
CSCC Epidemiológia



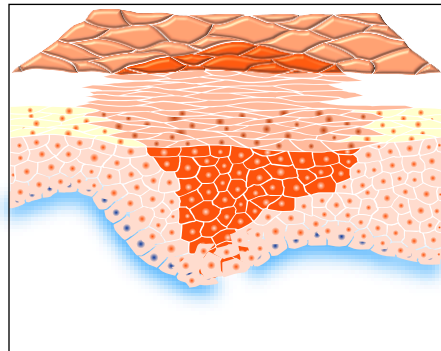
Priemerný vek je 70 rokov



Muži vs ženy incidencia 3:1



Často začína ako prekancerózna lézia



Incidenca CSCC

Nárast incidencie: až do 263% v období medzi 1980 a 2000 ¹



**2012: $\leq 499/100,000$ ľudí ²
(2011: 2/100,000 mortalita)**



**2012: 15 - 233.3/100,000 ľudí ³
2012 est: 4 do 8k ročná mortalita ²**

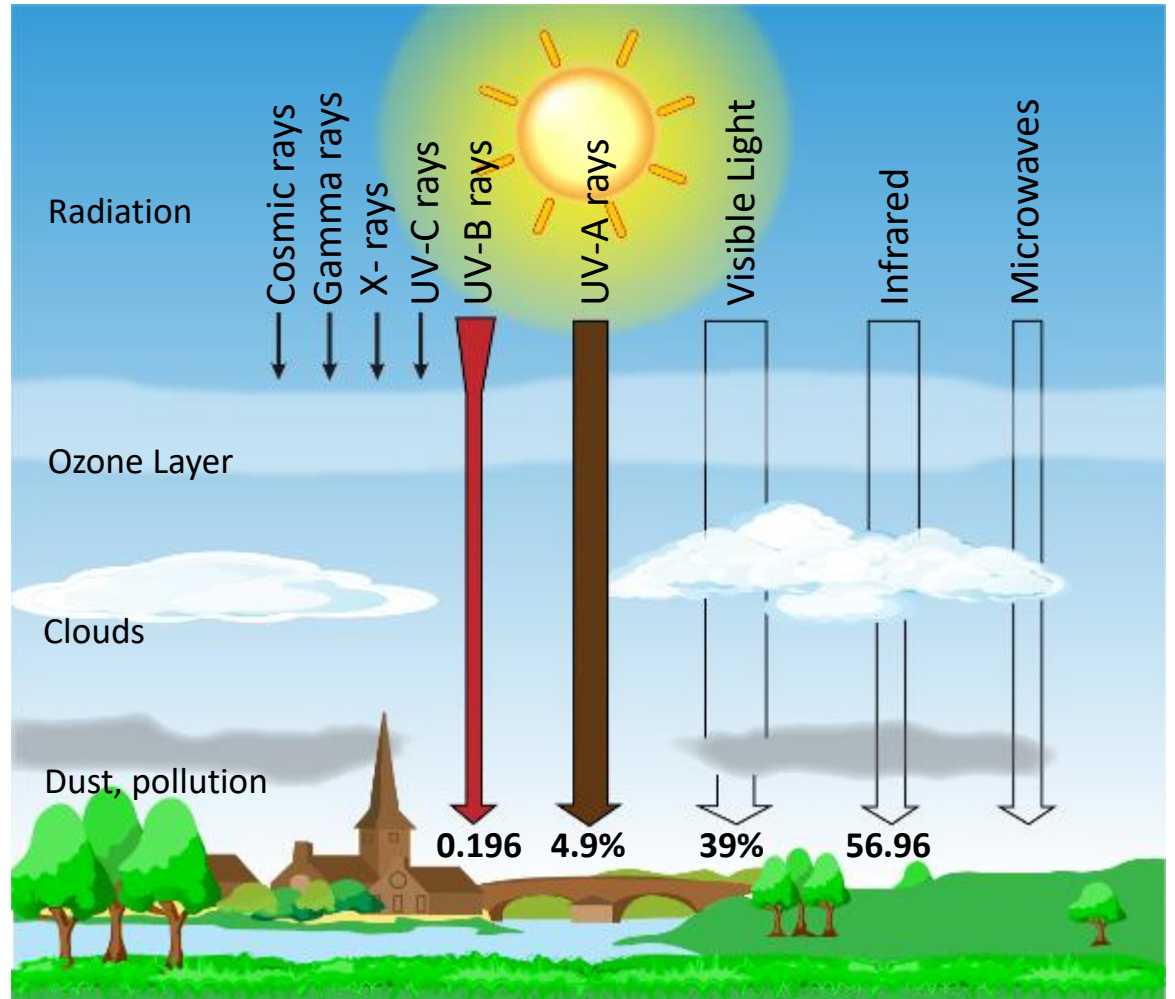


5 - 96/100,000 ľudí ²

1. Muzic JG, et al. *Mayo Clin Proc.* 2017;92:890-898; 2. Que SKT, et al. *J Am Acad Dermatol.* 2018;78:249-26118;
3. Karia PS, et al. *J Am Acad Dermatol.* 2013;68:957-66.

Rizikové faktory asociované so vznikom CSCC

- UV žiarenie: priame a umelé s kumulatívnou dávkou
- Ionizujúce žiarenie
- Chemické karcinogény: arzén a ďalšie
- Imunosupresívny status:
 - transplantovaní pacienti +++
 - hematologické komorbidity
- Zle hojace sa rany, ulcerácie



Vysoké vs nízke - rizikové črty vzniku CSCC

| Klinické črty | Nízke riziko | Vysoké riziko |
|--|---|--|
| Lokalizácia | Trup a končatiny < 20mm Hlava/krk < 10 mm Periorificiálne zóny: nie | Trup a končatiny > 20mm Hlava/krk > 10mm Periorificiálne zóny: áno |
| Okraje | Dobre definované | Zle definované |
| Nádor | Primárny | Rekurentný |
| Imunosupresia | Nie | Áno |
| Predošlá rádioterapia alebo chronický zápal | Nie | Áno |
| Rýchlo rastúci nádor | Nie | Áno |
| Neurologické symptómy | Nie | Áno |
| Histopatologické črty | Nízke riziko | Vysoké riziko |
| Stupeň diferenciácie | Dobre/stredne diferencovaný | Nízko diferencovaný |
| Akantolytický, adenoskvamózny, desmoplastický, metaplastický subtyp | Nie | Áno |
| Hĺbka: hrúbka a stupeň invázie | ≤ 6 mm resp. žiadna invázia ďalej ako do podkožného tuku | > 6 mm resp. prítomná invázia ďalej ako do podkožného tuku |
| Perineurálna, lymfatická invázia | Nie | Áno |

Prognostická klasifikácia CSCC



80 y. woman



68 y. man



70 y. man

Photos provided by Dr. Iris Zalaudek. Patients granted permission

Nízke riziko

Primárny nádor, dobre diferencovaný,
vystavený slnku
(okrem uší a pier)

Vysoké riziko

Rekurentný nádor, priemer > 2cm,
periorificiálne zóny,
Imunosupresia

Vysoké riziko

Zle diferencovaný, akantolytický,
desmoplastický, adenoskvamózny,
perineurálna invázia

TNM klasifikácia podľa - AJCC 8 Edition 2018

| T Category | | N Category | |
|------------|---|-------------------|---|
| TX | Primary tumor not assessable | Nx | Nodal lymphnodes not assessable |
| T0 | Unknown primary tumor | N0 | Absence of metastatic lymphnodes |
| Tis | Carcinoma in situ | N1 | Single metastatic node with diameter \leq 3 cm |
| T1 | Primary tumor with a horizontal diameter of < 2 cm | N2 | Single ipsilateral node with diameter > 3 cm but ≤ 6 cm; or multiple ipsilateral nodes with a max. diameter of ≤ 6 cm |
| T2 | Primary tumor with a horizontal diameter of ≥ 2 cm and < 4 cm without associated risk factors | N3 | Metastatic nodes > 6 cm |
| T3 | Primary tumor with a horizontal diameter of ≥ 4 cm a/o at least 1 risk factor (bone erosion, perineurial invasion, infiltration beyond subcutaneous fat) | M Category | |
| T4a | Primary tumor with cortical or medulla infiltration | | |
| T4b | Primary tumor with skull base invasion and/or skull base foramen involvement | M0 | Absence of distant metastases |
| | | M1 | Presence of distant metastases incl. contralateral nodes metastases |



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journal homepage: www.ejcancer.com



To date there is **no standard of care** for patients with locally advanced a/o metastatic cutaneous squamous cell carcinoma

Možnosti systémovej liečby u pokročilého CSCC

- **Chemoterapia**
 - chemo-rádioterapia: na báze platiny
 - elektrochemoterapia
- **Anti-EGFR**
 - lapatinib
 - cetuximab
 - gefitinib/erlotinib
- **Imunoterapia:** anti-PD1
 - cemiplimab
 - pembrolizumab
- → Pacienti po orgánových transplantáciach ?

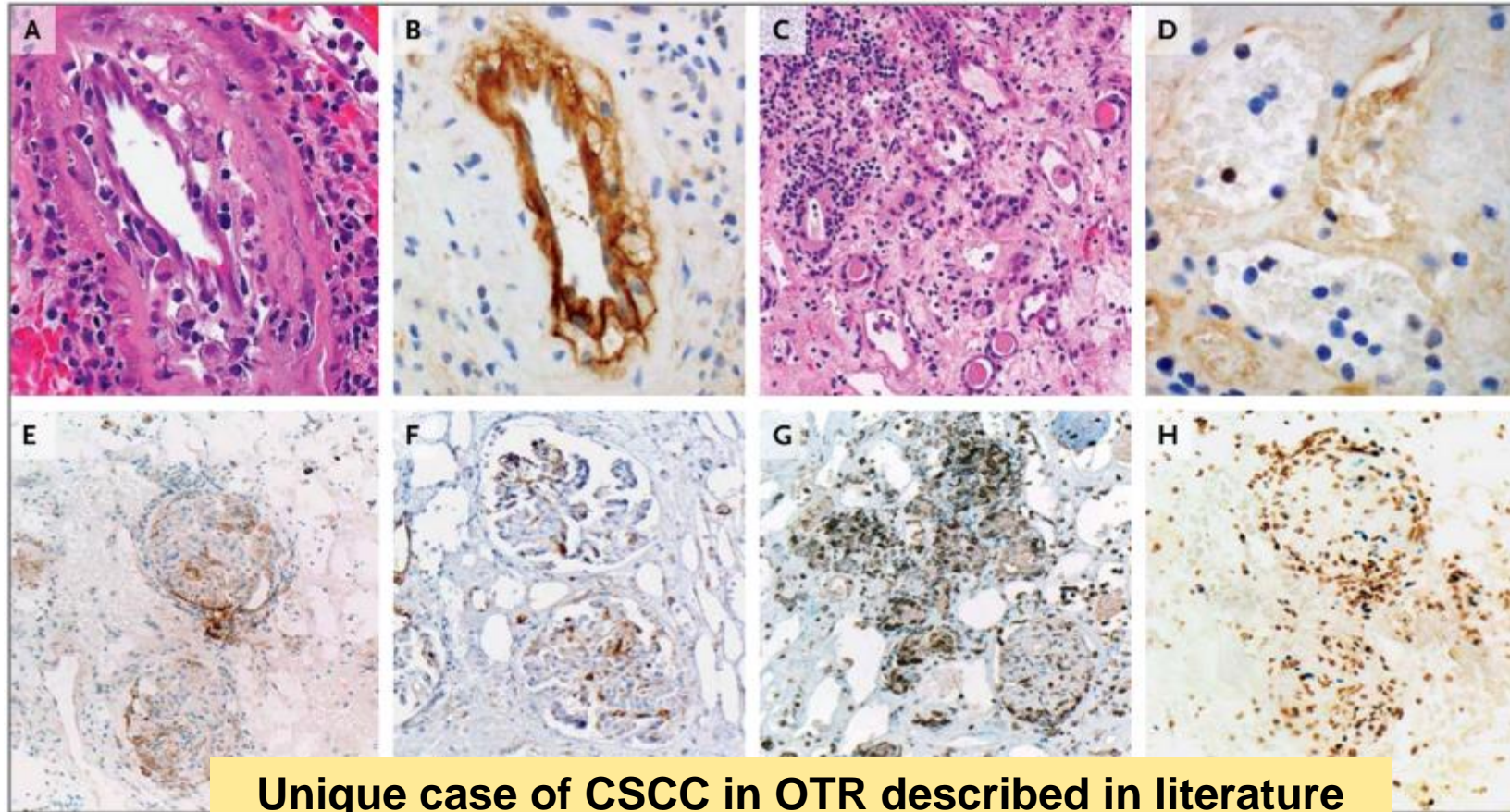
1. Nottage M, et al. *Head and Neck*. 2017;39:679-683; 2. Di Monta G, et al. *J of Transl Med*. 2017; 15:82; 3. Jenni D, et al. *ESMO Open*. 2015; 1:e000003; 4. Dereure O, et al. *Dermatology*. 2016; 323:721-730; 5. Stratigos A, et al. *Eur J Cancer*. 2015;51:1989-2007; 6. Migden M, et al. *N Engl J Med*. 2018; 379:341-351; 7. Degache E, et al. *J Eur Acad Dermatol Venereol*. 2018;32:e257-e258.

Tumor Regression and Allograft Rejection after Administration of Anti-PD-1

TO THE EDITOR: Although antibodies against the programmed death 1 (PD-1) receptor and one of its ligands (PD-L1) have produced tumor regres-

sions in multiple cancer types, these therapies are untested in patients treated with long-term immunosuppressive medications.¹ Here, we re-

N ENGL J MED 374;9 NEJM.ORG MARCH 3, 2016



Unique case of CSCC in OTR described in literature

Najčastejšie používané preparáty na liečbu CSCC

V monoterapii alebo kombinácii, ak chirurgická liečba a rádioterapia už nie je indikovaná

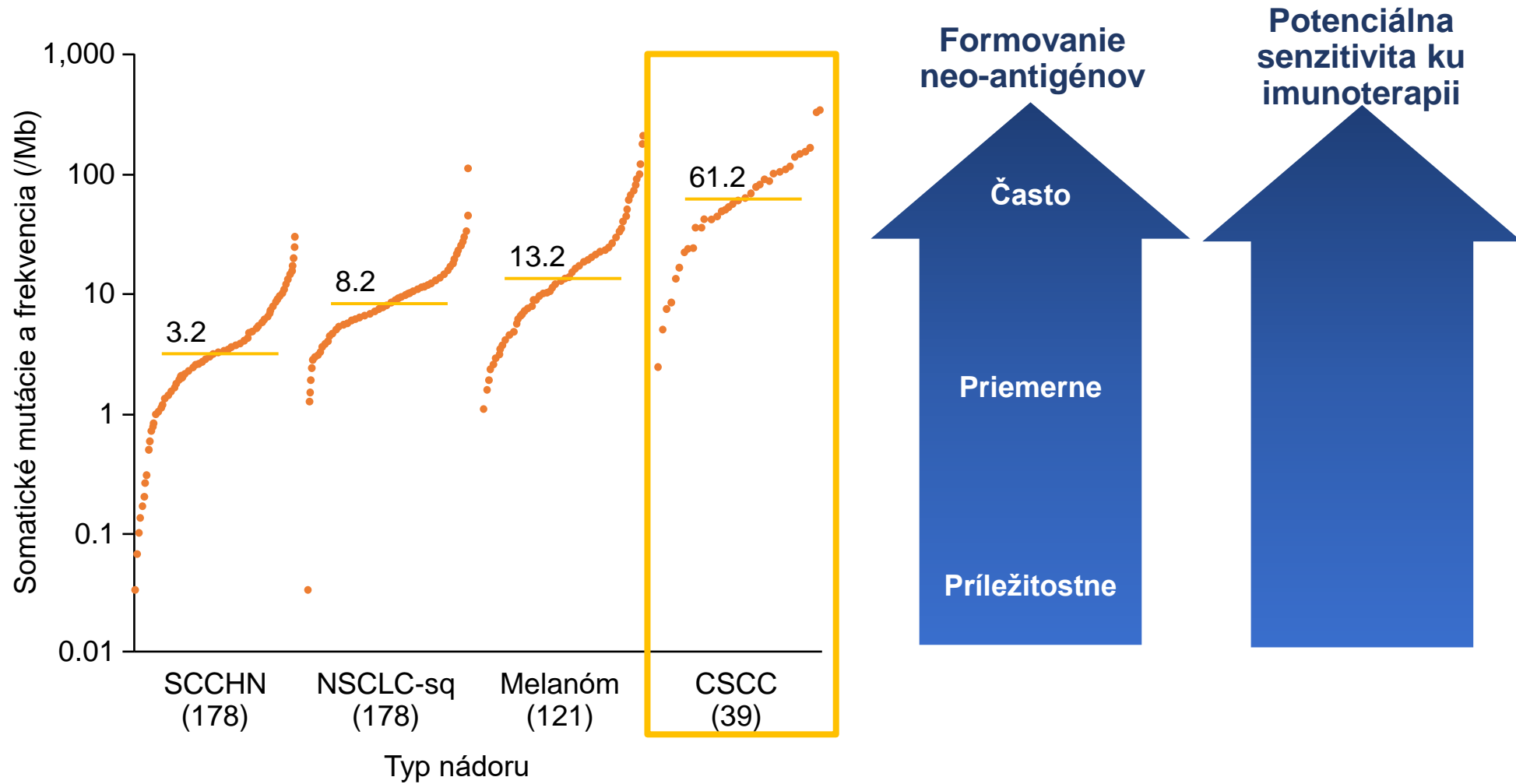
Chemoterapia

Platinové preparáty
Taxány
5-FU
Capecitabín

Anti EGFR-preparáty

Cetuximab
Erlotinib
Gefitinib
Panitumumab

„Tumor Mutation Burden,, u CSCC



Red horizontal line and associated number in figure = median mutations per MB.

CSCC, cutaneous squamous cell carcinoma; NSCLC, sq - lung squamous cell carcinoma; Mb, megabase of DNA; SCCHN, Squamous cell carcinoma of the head and neck. Pickering CR, et al. *Clin Cancer Res*. 2014;20:6582–6592.

Racionale pre použitie IO u CSCC

- Vysoká miera „tumor mutation burden (TMB) a imunogénne mikroprostredie
 - vysoká miera TMB prispieva k tvorbe neo-antigénov, ktoré zvyšujú antigenicitu¹
- Imunosupresia je dobre definovaný rizikový faktor pre vznik CSCC (hlavne po orgánových transplantáciach)²
- PD-L1 expresia často prítomná vo vysokej miere³

Pacienti vhodní na imunoterapiu s pokročilým CSCC

- Pacienti s pokročilým ochorením
- Lokálne pokročilý a metastatický nádor
- Pacienti, ktorí došli k progresii po chirurgickej liečbe
- Pacienti, ktorí nie sú kandidáti na chirurgickú liečbu z rôznych dôvodov, komorbidity, nízka pravdepodobnosť dosiahnutia R0 resekcie a ďalšie
- Pacienti, u ktorých nie je indikovaná kuratívna rádioterapia

Cemiplimab – mechanizmus účinku

- Cemiplimab je plne humanizovaná monoklonálna protilátka imunoglobulínu G4 (IgG4), ktorá sa viaže na receptor programovanej bunkovej smrti PD-1 a blokuje jeho interakciu s ligandmi PD-L1 a PD-L2.
- Cemiplimab zosilňuje odpovede T buniek, vrátane protinádorových odpovedí, prostredníctvom blokády väzby PD-1 na ligandy PD-L1 a PD-L2.

-

FDA Approval schválenie pre Cemiplimab-rwlc vydané 28. septembra 2018, v znení:

- Cemiplimab-rwlc is indicated in the U.S. for the treatment of patients with metastatic cutaneous squamous cell carcinoma (CSCC) or locally advanced CSCC who are not candidates for curative surgery or curative radiation
- *On 26 April 2019, the EMA Committee for Medicinal Products for Human Use (CHMP) adopted a positive opinion, recommending the granting of a conditional marketing authorization for Libtayo for the treatment of advanced CSCC*

Papadopoulos KP, et al. *J Clin Oncol*.2017;35(suppl; abstr. 9503).

Investigator Assessed Preliminary Response Rate by RECIST 1.1 is 46.2% (ITT Population)

| Investigator assessment | Metastatic (N=10), n (%) | Locally advanced (N=16), n (%) | Overall (N=26), n (%) |
|-------------------------|-----------------------------|-----------------------------------|--------------------------|
| Complete response | 0 | 2 (12.5) | 2 (7.7) |
| Partial response | 6 (60.0) [†] | 4 (25.0) | 10 (38.5) |
| Stable disease | 1 (10.0) | 5 (31.3) | 6 (23.1) |
| Progressive disease | 2 (20.0) | 4 (25.0) | 6 (23.1) |
| Not evaluated | 1 (10.0) | 1 (6.3) | 2 (7.7) |

ORR (CR + PR + one unconfirmed PR) = 46.2% (12/26 patients; 95% CI: 26.6–66.6)

DCR (ORR + SD) = 69.2% (18/26 patients; 95% CI: 48.2–85.7)

[†]Includes 5 confirmed partial responses and 1 unconfirmed partial response.
CR, complete response; DCR, disease control rate; ITT, intention-to-treat;
ORR, overall response rate; PD, progressive disease; PR, partial response;
SD, stable disease; RECIST, Response Evaluation Criteria In Solid Tumors.

Data cut-off date: 27 April 2017



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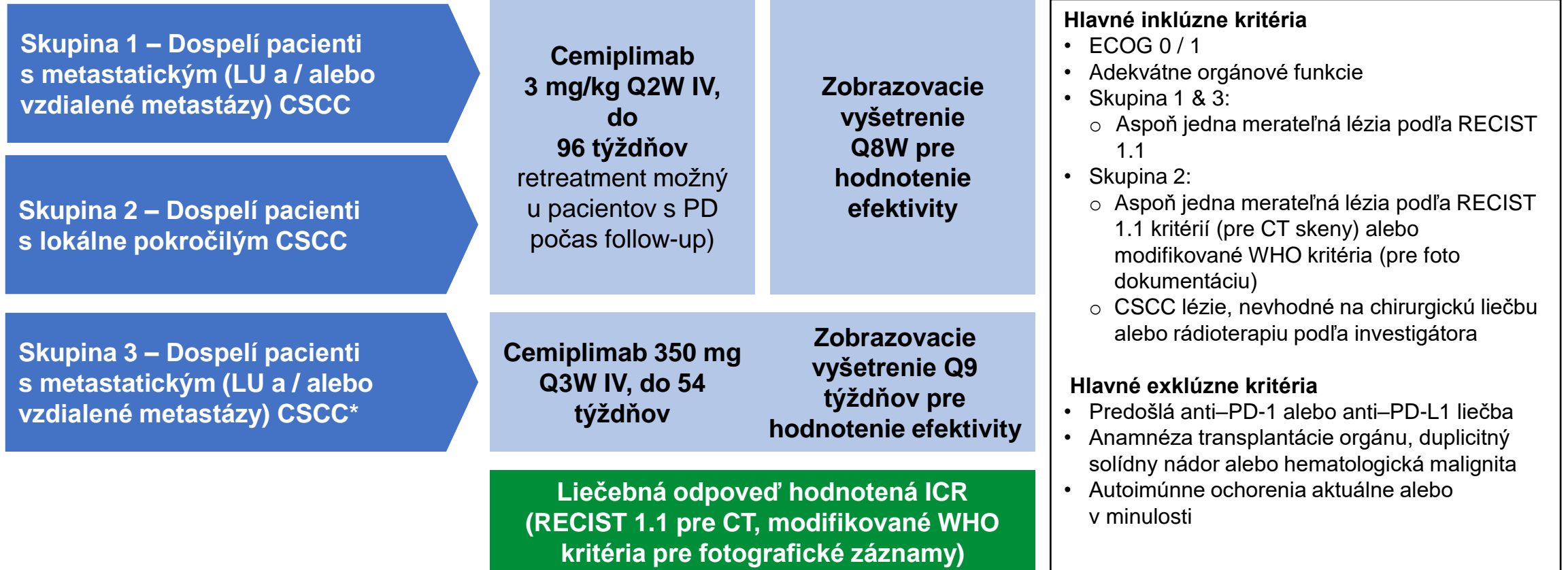
ORIGINAL ARTICLE

PD-1 Blockade with Cemiplimab in Advanced Cutaneous Squamous-Cell Carcinoma

M.R. Migden, D. Rischin, C.D. Schmults, A. Guminski, A. Hauschild, K.D. Lewis, C.H. Chung, L. Hernandez-Aya, A.M. Lim, A.L.S. Chang, G. Rabinowits, A.A. Thai, L.A. Dunn, B.G.M. Hughes, N.I. Khushalani, B. Modi, D. Schadendorf, B. Gao, F. Seebach, S. Li, J. Li, M. Mathias, J. Booth, K. Mohan, E. Stankevich, H.M. Babiker, I. Brana, M. Gil-Martin, J. Homsí, M.L. Johnson, V. Moreno, J. Niu, T.K. Owonikoko, K.P. Papadopoulos, G.D. Yancopoulos, I. Lowy, and M.G. Fury

Dostupné na www.nejm.org

Štúdia EMPOWER-CSCC-1- Dizajn (NCT02760498)



*Data not yet available

CSCC, cutaneous squamous cell carcinoma; ECOG, Eastern Cooperative Oncology Group; IV, intravenous; PD, programmed cell death; PD-L, PD-ligand; Q[n]W, every [n] weeks; RECIST 1.1, Response Evaluation Criteria In Solid Tumours version 1.1; WHO, World Health Organisation.

1. Guminski et al. *J Clin Oncol.* 2019;37 (suppl; abstr 9526) [poster presentation]. 2. Migden MR, et al. *J Clin Oncol.* 2019;37 (suppl; abstr 6015) [poster presentation].

Group 1: Data cut-off date: September 20, 2018

Group 2: Data cut-off date: October 10, 2018

Baseline charakteristika pac. v EMPOWER-CSCC-1 s pokročilým CSCC (skupina 1 a skupina 2)

| | Metastatický CSCC (N=59) ¹ | Lokálně pokročilí CSCC (N=78) ² |
|--|--|---|
| Median age, years (range) | 71 (38–93) | 74 (45–96) |
| ≥ 65 years, n (%) | 43 (72.9) | 59 (75.6) |
| Male sex, n (%) | 54 (91.5) | 59 (75.6) |
| ECOG performance status, n (%) | | |
| 0 / 1 | 23 (39.0) / 36 (61.0) | 38 (48.7) / 40 (51.3) |
| Primary CSCC site, n (%) | | |
| Head/neck | 38 (64.4) | 62 (79.5) |
| Extremity | 12 (20.3) | 14 (17.9) |
| Trunk | 9 (15.3) | 2 (2.6) |
| Prior systemic therapy for CSCC, n (%) | | |
| Any | 33 (55.9) | 12 (15.4) |
| 1 | 22 (37.3) | 10 (12.8) |
| ≥2 | 11 (18.6) | 2 (2.6) |
| Prior radiotherapy for CSCC, n (%) | 50 (84.7) | 43 (55.1) |
| Median duration of follow-up, months (range) | 16.5 (1.1–26.6) | 9.3 (0.8–27.9) |

Data cut-off date: Sept 20, 2018 (Group 1)¹; Oct 10, 2018 (Group 2)

CSCC, cutaneous squamous cell carcinoma; ECOG PS, Eastern Cooperative Oncology Group

[†]excludes ear and temple [‡]includes arms/hands and legs/feet

1. Guminski et al. *J Clin Oncol*. 2019;37 (suppl; abstr 9526) [poster presentation]. 2. Migden MR, et al. *J Clin Oncol*. 2019;37 (suppl; abstr 6015) [poster presentation].

Liečebná odpoveď – Nezávislá hodnotiacia komisia - pacienti s pokročilým CSCC (skupiny 1 a 2)

| | Metastatický CSCC (n=59) ¹ | Lokálne pokročilý CSCC (n=78) ² |
|--|--|---|
| Medián trvania follow-up, mesiace (rozsah) | 16.5 (1.1 – 26.6) | 9.3 (0.8 – 27.9) |
| Najlepšia odpoveď, n (%) | | |
| CR | 10 (16.9) | 10 (12.8) |
| PR | 19 (32.2) | 24 (30.8) |
| SD | 9 (15.3) | 28 (35.9) |
| Non-CR/non-PD [†] | 4 (6.8) | 0 |
| PD | 10 (16.9) | 9 (11.5) |
| Nedostupné ‡ | 7 (11.9) | 7 (9.0) |
| ORR, % (95% CI) | 49.2 (35.9–62.5) | 43.6 (32.4–55.3) |
| ORR podľa INV % (95% CI) | 49.2 (35.9-62.6) | 52.6 (40.9-64.0) |
| CR / PR | 4 (6.8) / 25 (42.3) | 13 (16.7) / 28 (35.9) |
| DCR % (95% CI) | 71.2 (57.9–82.2) | 79.5 (68.8–87.8) |
| Kontrola trvania odpovede, % (95% CI) [§] | 62.7 (49.1–75.0) | 62.8 (51.1–73.5) |
| Median času do odpovede, mesiace (rozsah) ¶ | 1.9 (1.7–9.1) | 1.9 (1.8–8.8) |

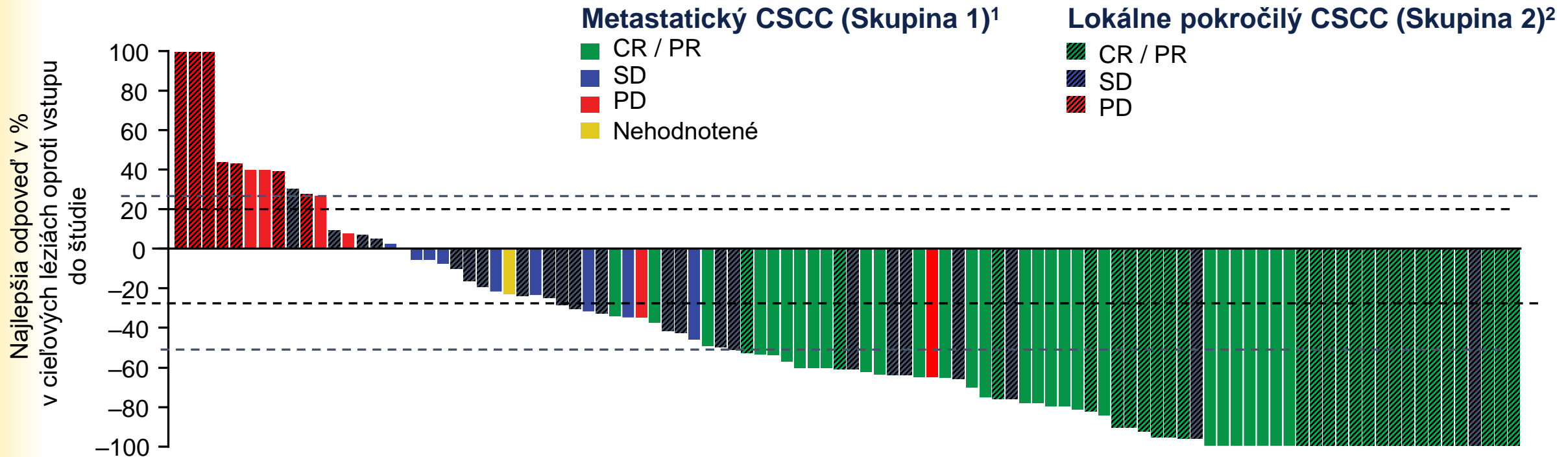
Data cut-off date: Sept 20, 2018 (Group 1); Oct 10, 2018 (Group 2)

[†]Patients with non-measurable disease on central review of baseline imaging. [‡]Include missing and unknown tumor response. [§]Defined as the proportion of patients without progressive disease for at least 105 days.

[¶]Data shown are from patients with confirmed responses.

INV investigator assessment

Najlepšia odpoveď v cieľových léziách u pacientov s pokročilým CSCC podľa ICR



Data cut-off date: Sept 20, 2018 (Group 1); Oct 10, 2018 (Group 2)

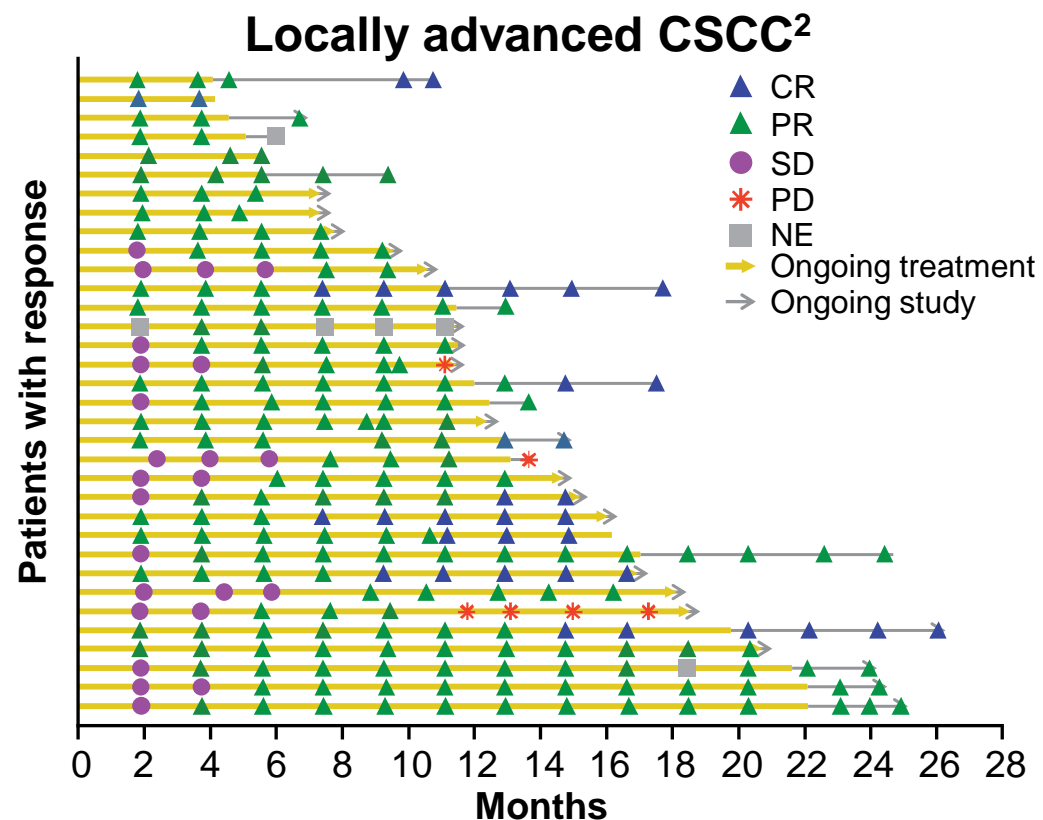
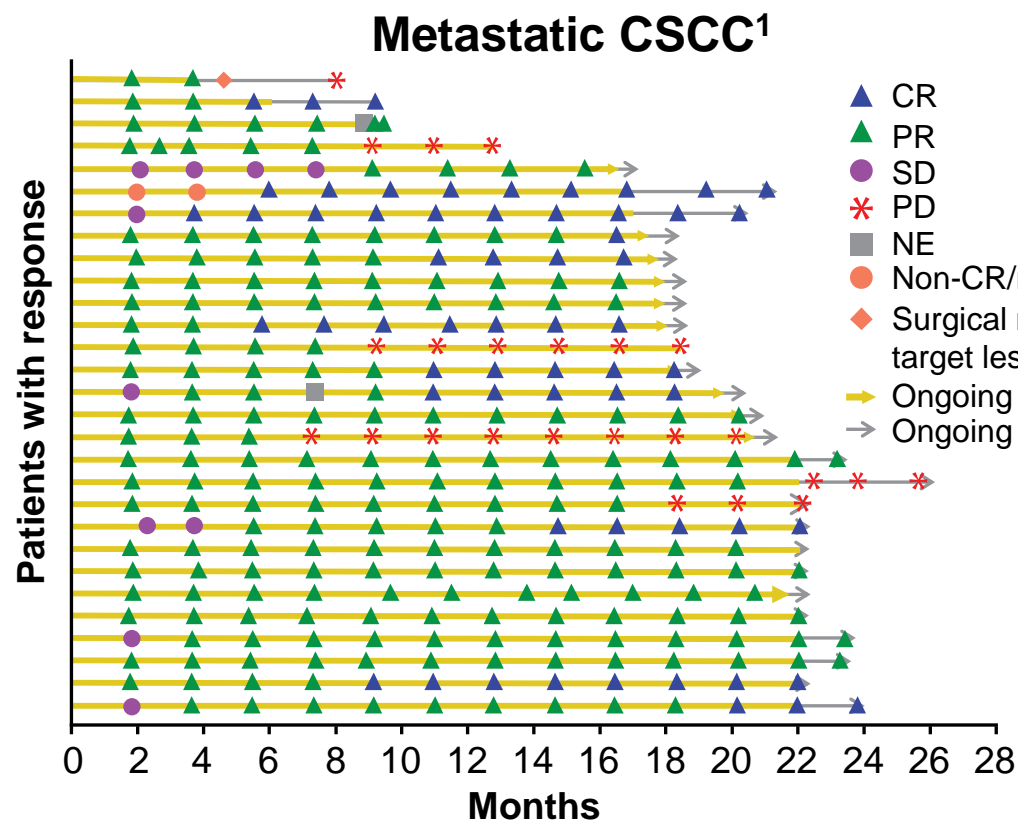
Bars show the best percentage change in the sum of target lesion diameters from baseline for 45 patients with metastatic CSCC who underwent radiologic evaluation per ICR and 56 patients with locally advanced CSCC who underwent photography evaluation per modified WHO criteria by ICR after treatment initiation. Lesion measurements after progression were excluded. Black horizontal dashed lines indicate RECIST 1.1 criteria for partial response ($\geq 30\%$ decrease in the sum of target lesion diameters) and progressive disease ($\geq 20\%$ increase in the target lesion diameters). Blue horizontal dashed lines indicate WHO criteria for partial response ($\geq 50\%$ decrease in the sum of target lesion diameters) and progressive disease ($\geq 25\%$ increase in the target lesion diameters).

CSCC, cutaneous squamous cell carcinoma; ICR, independent central review; RECIST 1.1, Response

Evaluation Criteria In Solid Tumors version 1.1; WHO, World Health Organization

1. Guminski AD, et al. *J Clin Oncol* 2019;37 (suppl; abstr 9526); 2. Migden MR, et al. *J Clin Oncol* 2019;37 (suppl; abstr 6015)

Čas do odpovede a trvanie odpovede u odpovedajúcich pac. s pokročilým CSCC



Data cut-off date: Sept 20, 2018 (Group 1); Oct 10, 2018 (Group 2)

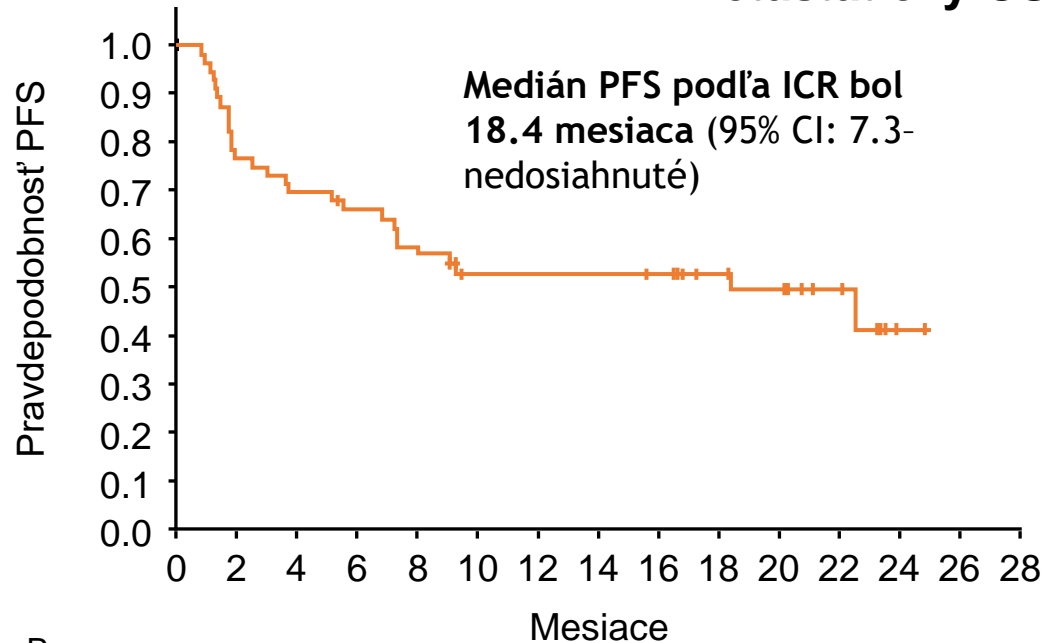
[†]Twenty-three of the 29 patients remain in response at time of data cut-off; of the 23 patients, 10 were still on study, 11 were in post-treatment follow-up and two were off study. Multiple progression events for a single patient were possible due to discrepancies between investigator and ICR assessments of tumour response and because the protocol allowed option for treatment past progression in patients whom the investigator felt were experiencing clinical benefits. [‡]Of the 34 responding patients, three had subsequent progressive disease. Among the remaining 31 patients who were in response at the time of data cut-off, 12 were still on study treatment, nine were in post-treatment follow-up, and 10 were off study. One patient (sixth from bottom) had four progressive disease assessments due to discordance between investigator and ICR assessments of tumour response.

CR, complete response; CSCC, cutaneous squamous cell carcinoma; ICR, independent central review; NE, not evaluable; PD, progressive disease; PR, partial response; SD, stable disease.

1. Guminski et al. *J Clin Oncol.* 2019;37 (suppl; abstr 9526) [poster presentation]. 2. Migden MR, et al. *J Clin Oncol.* 2019;37 (suppl; abstr 6015) [poster presentation].

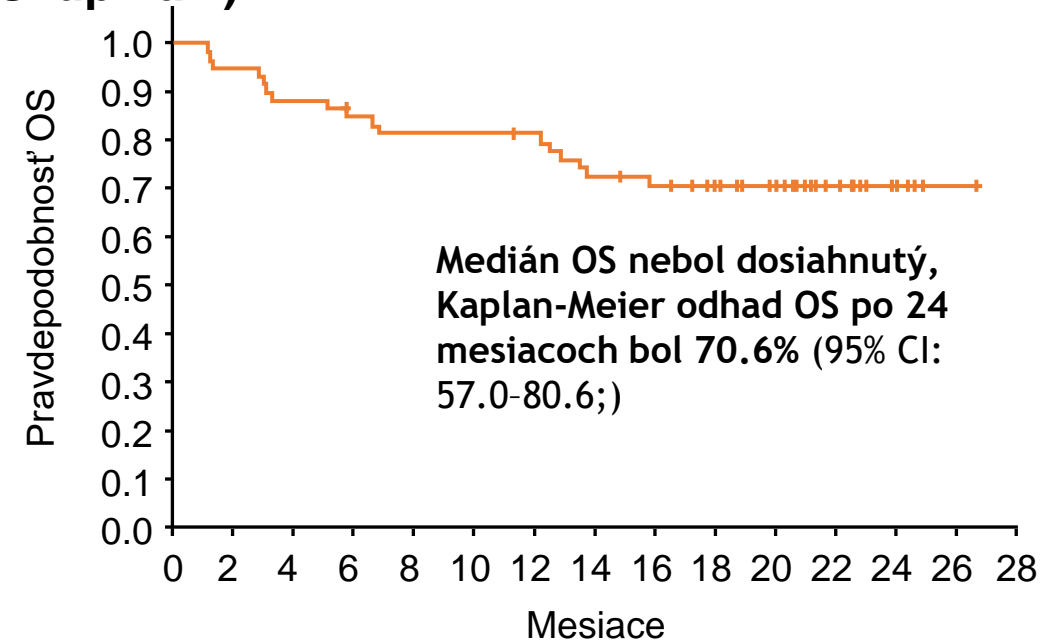
Hodnotenie ORR, PFS, a DOR u pacientov s pokročilým CSCC

Metastatický CSCC (Skupina 1)¹



Pac. v riziku 59 43 39 36 32 26 26 26 25 18 15 10 1 0 0

Medián DOR nedosaiahnutý



Pac. v riziku 59 56 52 49 47 47 46 41 39 32 24 14 6 1 0

| | Lokálne pokročilý CSCC (Skupina 2) ² |
|--------------------------------------|---|
| Medián PFS | NR |
| K-M odhad PFS po 12 mesiacoch | 58.1% (95% CI: 43.7–70.0) |
| Medián OS | NR |
| K-M odhad OS po 12 mesiacoch | 93.2% (95% CI: 84.4–97.1) |
| Medián DOR | NR |

Group 1: Median duration of follow-up = 16.5 mos (range 1.1 – 26.6); Group 2: Median duration of follow-up = 9.3 mos (range 0.8 – 27.9)

Data cut-off date: Sept 20, 2018 (Group 1); Oct 10, 2018 (Group 2)

CI, confidence interval; CSCC, cutaneous squamous cell carcinoma; ICR, independent central review; OS, overall survival; PFS, progression-free survival;

NR, not reached

1. Guminski et al. J Clin Oncol. 2019;37 (suppl; abstr 9526) [poster presentation]. 2. Migden MR, et al. J Clin Oncol. 2019;37 (suppl; abstr 6015) [poster presentation].

PRÍKLAD REDUKCIE VIDITEĽNÝCH LÉZIÍ CSCC PO LIEČBE CEMIPLIMABOM ZO ŠTÚDIE

70-ročná žena s veľkým CSCC nádorom v oblasti chrbta

Úvodne



Týždeň 48

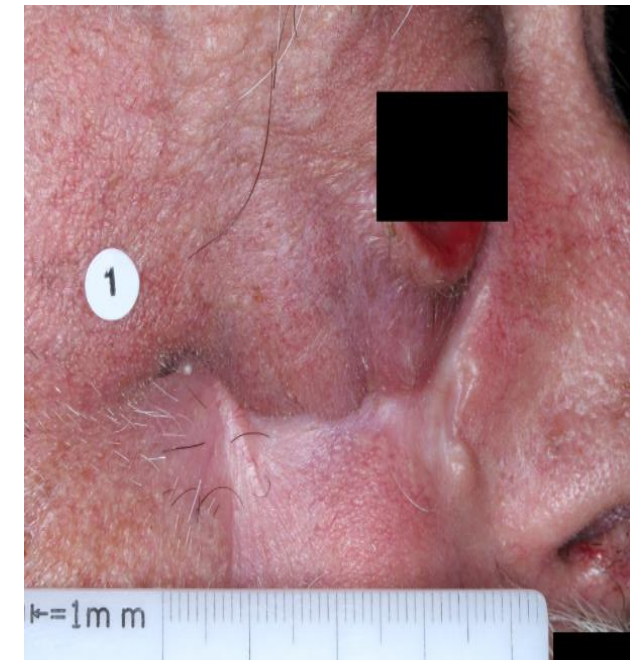


70-ročný muž s veľkým CSCC na tvári

Úvodne



Týždeň 18



Žiadny pacient predtým nebol liečený rádioterapiou alebo inou systémovou liečbou

CSCC, cutaneous squamous cell carcinoma .

1.Guminski et al. *J Clin Oncol.* 2019;37, 2. Migden MR, et al. *J Clin Oncol.* 2019;37

Data cut-off date: 20 Sep 2018 (Group 1); 10 Oct 2018 (Group 2).

Treatment-emergent Adverse Events (TEAEs) Regardless of Attribution u pacientov s pokročilým CSCC

| | Skupina 1 Metastatický CSCC (n=59) ¹ | | Skupina 2 Lokálne pokročilý CSCC (n=78) ² | | Spolu (n=137) ³ | |
|-----------------------------------|---|-----------|--|-----------|-------------------------------|-----------|
| | Všetky grade | Grade ≥3 | Všetky grade | Grade ≥3 | Všetky grade | Grade ≥3 |
| Všetky | 59 (100.0) | 30 (50.8) | 78 (100.0) | 34 (43.6) | 137 (100.0) | 64 (46.7) |
| Závažné | 24 (40.7) | 20 (33.9) | 23 (29.5) | 19 (24.4) | 47 (34.3) | 39 (28.5) |
| Vedúce k prerušeniu liečby | 6 (10.2) | 4 (6.8) | 6 (7.7) | 5 (6.4) | 12 (8.8) | 9 (6.6) |

Metastatický CSCC (Skupina 1)¹

Grade ≥3 TEAEs pozorované u >1 pacienta

- Cellulitída (n=4; 6.8%)
- Pneumonitída (n=3; 5.1%)
- Anémia, dyspnoe, hyperkalcémia, nový primárny CSCC, pleurálny výpotok, pneumónia (každá n=2; 3.4%)

Grade ≥3 TEAEs vedúce k prerušeniu liečby

- Pneumonitída (n=3; 5.1%)
- Aseptická meningitída, zmätenosť, bolesti krku, (u toho istého pacienta: n=1; 1.7%)

Lokálne pokročilý CSCC (Skupina 2)²

Grade ≥3 TEAEs pozorované u >1 pacienta

- Hypertenzia (n=6; 7.7%)
- Pneumónia (n=4; 5.1%)
- Hyperglykémia a cellulitída (každá n=3; 3.8%)
- Karcinóm prsníka, pády, hyponatrémia, lymfopénia, svalová slabosť, pneumonitis, sepsa, uroinfekcia (každá n=2; 2.6%)

Grade ≥3 TEAEs vedúce k prerušeniu liečby

- Pneumonitída (n=2; 2.6%)
- Encephalitída, hepatitída, zvýšenie AST, pneumónia, proktitída (každá n=1; 1.3%)

Data cut-off date: Sept 20, 2018 (Group 1); Oct 10, 2018 (Group 2)

CSCC, cutaneous squamous cell carcinoma; TEAE, treatment-emergent adverse event.

1. Guminski et al. J Clin Oncol. 2019;37 (suppl; abstr 9526) [poster presentation]. 2. Migden MR, et al. J Clin Oncol. 2019;37 (suppl; abstr 6015) [poster presentation]. 3. Data on File, Regeneron Pharmaceuticals Inc.

ZÁVER

- Výsledky ukazujú, že cemiplimab má v liečbe CSCC významnú a dlhotrvajúcu efektivitu
- Medián trvania odpovede v dobe data cut-off nebol dosiahnutý
 - v dobe data cut-off sa stále pozorovali liečebné odpovede u väčšiny pacientov v štúdií
- Profil toxicity je porovnateľný s inými ICIs zo skupiny anti–PD-1

PD, programmed cell death.

