

Literatura ACTA MEDICINAE 1/2019 Biologická léčba

- 3 **Nové monoklonální protilátky v nenádorových i nádorových indikacích – výhledy do roku 2019**
prof. MUDr. Vladimír Tesař, DrCs., MBA, FERA, FASN Klinika nefrologie 1. LF UK a VFN, Praha
- 3 **Modifikace průběhu axiálních spondyloartritid**
prof. MUDr. Karel Pavelka, DrSc. Revmatologický ústav, Praha
- 3 **Baricitinib a jeho postavení v léčbě – současné možnosti léčby revmatoidní artritidy**
MUDr. Zdeněk Fojtík, Ph.D. Revmatologická ambulance, Interní hematologická a onkologická klinika, FN a LF MU, Brno
- 4 **Novinky v léčbě psoriatické artritidy**
MUDr. Martin Žurek III. interní klinika – nefrologická, revmatologická a endokrinologická LF UP a FN Olomouc
- 4 **Originální, nebo biosimilární adalimumab?**
MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha
- 4 **Guselkumab – první inhibitor IL-23 v léčbě psoriázy**
doc. MUDr. Spyridon Gkalpakiotis, Ph.D., MBA | MUDr. Milena Tanczosová Dermatovenerologická klinika 3. LF UK a FNKV, Praha
- 5 **Přínos tofacitinibu v léčbě psoriatické artritidy**
MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha
- 5 **Postavení tofacitinibu v léčbě revmatoidní artritidy**
MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha
- 5 **Belimumab v léčbě systémového lupus erythematoses – nové poznatky**
MUDr. Hana Ciferská, Ph.D. | MUDr. Kateřina Zegzulková Revmatologický ústav a Revmatologická klinika 1. LF UK, Praha
MUDr. Jan Vachek, Ph.D. Klinika nefrologie 1. LF UK a VFN, Praha
- 5 **Analýza pacientů na terapii secukinumabem na Dermatovenerologické klinice 3. LF UK a FNKV Praha**
MUDr. Jan Hugo | doc. MUDr. Spyridon Gkalpakiotis, Ph.D., MBA Dermatovenerologická klinika 3. LF UK a FNKV, Praha
- 6 **Úloha biologické léčby v terapii hypereozinofilních stavů**
MUDr. Tomáš Milota Ústav imunologie 2. LF UK a FN v Motole, Praha
- 6 **Imunoterapie karcinomu plic**
MUDr. Leona Koubková Pneumologická klinika 2. LF UK a FN v Motole, Praha
- 6 **Novinky v biologické léčbě karcinomu plic**
MUDr. Michaela Heroutová | MUDr. Lenka Jakubíková Klinika nemocí plicních a tuberkulózy LF MU a FN Brno
- 7 **Studie PALOMA-3 – celkové přežití pacientek**
MUDr. Katarína Petráková, Ph.D. Klinika komplexní onkologické péče MOÚ, Brno
- 7 **Lorlatinib**
MUDr. Leona Koubková Pneumologická klinika UK 2. LF a FN Motol, Praha
- 7 **Inhibitory CDK4/6 v léčbě metastatického karcinomu prsu**
MUDr. Katarína Petráková, Ph.D. Klinika komplexní onkologické péče MOÚ, Brno
- 7 **PARP inhibitory v terapii ovariálního karcinomu**
MUDr. Pavel Vlasák | doc. MUDr. Jiří Bouda, Ph.D. | MUDr. Jan Kostun | MUDr. Denis Berezovskiy | MUDr. Jiří Presl, Ph.D.
Gynekologicko-porodnická klinika LF UK a FN Plzeň
- 8 **Ovariální karcinom je jiná nemoc – linie léčby**
prof. MUDr. Michal Zikán, Ph.D. Gynekologicko-porodnická klinika 1. LF UK a Nemocnice Na Bulovce, Praha
- 8 **Novinky v léčbě pokročilého karcinomu ledviny**
prof. MUDr. Jindřich Fínek, Ph.D. Onkologická a radioterapeutická klinika FN a LF v Plzni UK, Plzeň
- 8 **X4P-001-IO a axitinib v léčbě generalizovaného renálního karcinomu**
MUDr. Ivo Kocák, Ph.D. Klinika komplexní onkologické péče, MOÚ, Brno
- 8 **Imuno-onkologická léčba inhibitory kontrolních bodů**
doc. MUDr. Tomáš Büchler, Ph.D. | MUDr. Aneta Rozsypalová Onkologická klinika 1. LF UK a Thomayerovy nemocnice, Praha

- 8 **Současnost a budoucnost biologické léčby v terapii migrény**
MUDr. David Doležil, PhD, MBA Headache centrum Praha, DADO MEDICAL, s. r. o., Praha
- 9 **Novinky v léčbě mnohočetného myelomu**
MUDr. Martin Štork | prof. MUDr. Zdeněk Adam, CSc. | doc. MUDr. Marta Krejčí, Ph.D. | MUDr. Viera Sandecká |
doc. MUDr. Luděk Pour, Ph.D. Interní hematologická a onkologická klinika, LF MU a FN Brno
- 9 **Novinky v léčbě chronické lymfocytární leukemie**
MUDr. Martin Šimkovič, Ph.D. IV. interní hematologická klinika, FN a LF UK v Hradci Králové
- 10 **Roztroušená skleróza u dětí a adolescentů a nové terapeutické možnosti**
doc. MUDr. Radomír Taláb, CSc. Neurologická klinika LF UK a FN Plzeň
MUDr. Marika Talábová Neurologická klinika LF UK a FN Hradec Králové
- 10 **Indukční terapie a roztroušená skleróza**
doc. MUDr. Martin Vališ, Ph.D. | MUDr. Zbyšek Pavelek, Ph.D. Neurologická klinika LF a FN Hradec Králové
- 10 **Novinky v léčbě roztroušené sklerózy**
MUDr. Radek Ampapa Centrum pro léčbu demyelinizačních onemocnění, Neurologické oddělení Nemocnice Jihlava
- 10 **Onkologická léčba u roztroušené sklerózy**
MUDr. Jiří Slíva, Ph.D. Ústav farmakologie, 3. LF UK, Praha

Nové monoklonální protilátky v nenádorových i nádorových indikacích – výhledy do roku 2019

prof. MUDr. Vladimír Tesař, DrCs., MBA, FERA, FASN Klinika nefrologie 1. LF UK a VFN, Praha

- 1 Banerji, A. – Riedl, M. A. – Bernstein, J. A., et al.: Effect of lanadelumab compared with placebo on prevention of hereditary angioedema attacks: a randomized clinical trial. *JAMA*, 2018, 320, s. 2108–2121.
- 2 Bardia, A. – Mayer, I. A. – Vahdat, L. T., et al.: Sacituzumab govitecan-hziy in refractory metastatic triple-negative breast cancer. *N Engl J Med*, 2019, 380, s. 741–751.
- 3 Dodick, D. W. – Silberstein, S. D. – Bigal, M. E., et al.: Effect of fremanezumab compared with placebo for prevention of episodic migraine: a randomized clinical trial. *JAMA*, 2018, 319, s. 1999–2008.
- 4 Emu, B. – Fessel, J. – Schrader, S., et al.: Phase 3 study of ibalizumab for multidrug-resistant HIV-1. *N Engl J Med*, 2018, 379, s. 645–654.
- 5 Gordon, K. B. – Strober, B. – Lebwohl, M., et al.: Efficacy and safety of risankizumab in moderate-to-severe plaque psoriasis (UltiMMA-1 and UltiMMA-2): results from two double-blind, randomised, placebo-controlled and ustekinumab-controlled phase 3 trials. *Lancet*, 2018, 392, s. 650–661.
- 6 Insogna, K. L. – Briot, K. – Imel, E. A., et al.: A randomized, double-blind, placebo-controlled, phase 3 trial evaluating the efficacy of burosumab, an anti-FGF23 antibody, in adults with X-linked hypophosphatemia: week 24 primary analysis. *J Bone Miner Res*, 2018, 33, s. 1383–1393.
- 7 Kaplon, H. – Reichert, J. M.: Antibodies to watch in 2019. *mAb*, 2019, 11, s. 219–238.
- 8 Kim, Y. H. – Bagot, M. – Pinter-Brown, L., et al.: Mogamulizumab versus vorinostat in previously treated cutaneous T-cell lymphoma (MAVORIC): an international, open-label, randomised, controlled phase 3 trial. *Lancet Oncol*, 2018, 19, s. 1192–1204.
- 9 Kreitman, R. J. – Dearden, C. – Zinzani, P. L., et al.: Moxetumomab pasudotox in relapsed/refractory hairy cell leukemia. *Leukemia*, 2018, 32, s. 1768–1777.
- 10 Kulasekararaj, A. G. – Hill, A. – Rottinghaus, S. T., et al.: Ravulizumab (ALX1210) vs eculizumab in C5-inhibitor-experienced adult patients with PNH: the 302 study. *Blood*, 2019, 133, s. 540–549.
- 11 Migden, M. R. – Rischin, D. – Schmults, C. D., et al.: PD-1 blockade with cemiplimab in advanced cutaneous squamous-cell carcinoma. *N Engl J Med*, 2018, 379, s. 341–351.
- 12 Reich, K. – Papp, K. A. – Blauvelt, A., et al.: Tildrakizumab versus placebo or etanercept for chronic plaque psoriasis (reSURFACE 1 and reSURFACE 2): results from two randomised controlled, phase 3 trials. *Lancet*, 2017, 390, s. 276–288.
- 13 Saag, K. G. – Petersen, J. – Brandi, M. L., et al.: Romosozumab or alendronate for fracture prevention in women with osteoporosis. *N Engl J Med*, 2017, 377, s. 1417–1427.
- 14 Scully, M. – Cataland, S. R. – Peyvandi, F., et al.: Caplacizumab treatment for acquired thrombotic thrombocytopenic purpura. *N Engl J Med*, 2019, 380, s. 335–346.

Modifikace průběhu axiálních spondyloartritid

prof. MUDr. Karel Pavelka, DrSc. Revmatologický ústav, Praha

- 1 Keystone, E. C. – van der Heijde, D. – Kavanaugh, A., et al.: Clinical, functional and radiographic benefits of long term adalimumab plus MTX: Final 10 year data in longstanding rheumatoid arthritis. *J Rheumatol*, 2013, 40, s. 1487–1497.
- 2 Taylor, P. C. – Keystone, E. C. – van der Heijde, D., et al.: Baricitinib versus placebo or adalimumab in rheumatoid arthritis. *N Engl J Med*, 2017, 376, s. 652–662.
- 3 Creemers, M. C. – Fanssen, M. J. – van't Hof, M. A., et al.: Assessment of outcome in ankylosing spondylitis: an extended radiographic scoring system. *Ann Rheum Dis*, 2005, 64, s. 127–129.
- 4 Calin, A. – Garrett, S. – Whitelock, H., et al.: A new approach to defining functional ability in ankylosing spondylitis: the development of the Bath Ankylosing Spondylitis Functional Index. *J Rheumatol*, 1994, 21, s. 2281–2285.
- 5 Jenkinson, T. R. – Mallorie, P. A. – Whitelock, H. C., et al.: Defining spinal mobility in ankylosing spondylitis (AS). The Bath AS Metrology Index. *J Rheumatol*, 1994, 21, s. 1694–1698.
- 6 Braun, J. – Baraliakos, X. – Golder, W., et al.: Magnetic resonance imaging examinations of the spine in patients with ankylosing spondylitis, before and after successful therapy with infliximab: evaluation of a new scoring system. *Arthritis Rheum*, 2003, 48, s. 1126–1136.
- 7 Landewé, R. – Braun, J. – Deodhar, A., et al.: Efficacy of certolizumab pegol on signs and symptoms of axial spondyloarthritis including ankylosing spondylitis: 24-week results of a double-blind randomised placebo-controlled Phase 3 study. *Ann Rheum Dis*, 2014, 73, s. 39–47, doi: 10.1136/annrheumdis-2013-204231, Epub 6. 9. 2013.
- 8 Braun, J. – Baraliakos, X. – Deodhar, A., et al.: Secukinumab shows sustained efficacy and low structural progression in ankylosing spondylitis: 4-year results from the MEASURE 1 study. *Rheumatology*, doi: 10.1093/rheumatology/key375.
- 9 van der Heijde, D. – Braun, J. – Deodhar, A., et al.: Modified Stoke ankylosing spondylitis spinal score as an outcome measure to assess the impact of treatment on structural progression in ankylosing spondylitis. *Rheumatology*, doi: 10.1093/rheumatology/key128.
- 10 Baraliakos, X. – Listing, J. – von der Recke, A., et al.: The natural course of radiographic progression in ankylosing spondylitis-evidence for major individual variations in a large proportion of patients. *J Rheumatol*, 2009, 36, s. 997–1002.
- 11 de Bruin, F. – de Koning, A. – van den Berg, R., et al.: Development of the CT Syndesmophyte Score (CTSS) in patients with ankylosing spondylitis: data from the SIAS cohort. *Ann Rheum Dis*, 2018, 77, s. 371–377.
- 12 Wanders, A. – van der Heijde, D. – Landewé, R., et al.: Nonsteroidal antiinflammatory drugs reduce radiographic progression in patients with ankylosing spondylitis: a randomized clinical trial. *Arthritis Rheum*, 2005, 52, s. 1756–1765.
- 13 Sieper, J. – Listing, J. – Poddubnyy, D., et al.: Effect of continuous versus on-demand treatment of ankylosing spondylitis with diclofenac over 2 years on radiographic progression of the spine: results from a randomised multicentre trial (ENRADAS). *Ann Rheum Dis*, 2016, 75, s. 1438–1443.
- 14 Poddubnyy, D. – Rudwaleit, M. – Haibel, H., et al.: Effect of non-steroidal anti-inflammatory drugs on radiographic spinal progression in patients with axial spondyloarthritis: results from the German Spondyloarthritis Inception Cohort. *Ann Rheum Dis*, 2012, 71, s. 1616–1622.
- 15 Braun, J. – Baraliakos, X. – Hermann, K. G., et al.: The effect of two golimumab doses on radiographic progression in ankylosing spondylitis: results through 4 years of the GO-RAISE trial. *Ann Rheum Dis*, 2014, 73, s. 1107–1113, doi: 10.1136/annrheumdis-2012-203075.
- 16 Maas, F. – Arends, S. – Brouwer, E., et al.: Reduction in spinal radiographic progression in ankylosing spondylitis patients receiving prolonged treatment with tumor necrosis factor inhibitors. *Arthritis Care Res*, 2017, 69, s. 1011–1019.
- 17 Braun, J. – Baraliakos, X. – Hermann, K. G., et al.: The effect of two golimumab doses on radiographic progression in ankylosing spondylitis: results through 4 years of the GO-RAISE trial. *Ann Rheum Dis*, 2014, 73, s. 1107–1113.
- 18 Machado, P.: Anti-tumor necrosis factor and new bone formation in ankylosing spondylitis: the controversy continues. *Arthritis Rheum*, 2013, 65, s. 2537–2540.
- 19 Molnar, C. – Scherer, A. – Baraliakos, X., et al.: TNF blockers inhibit spinal radiographic progression in ankylosing spondylitis by reducing disease activity: results from the Swiss Clinical Quality Management cohort. *Ann Rheum Dis*, 2018, 77, s. 63–69.
- 20 Baraliakos, X. – Braun, J. – Deodhar, A., et al.: Secukinumab demonstrates low radiographic progression and sustained efficacy through 4 years in patients with active ankylosing spondylitis. *Ann Rheum Dis*, 2018, 77, s. 997–998, suppl. 2, Meeting Abstract: SAT0268.
- 21 van der Heijde, D. – Landewé, R. – Einstein, S., et al.: Radiographic progression of ankylosing spondylitis after up to two years of treatment with etanercept. *Arthritis Rheum*, 2008, 58, s. 1324–1331.
- 22 van der Heijde, D. – Landewé, R. – Baraliakos, X., et al.: Radiographic findings following two years of infliximab therapy in patients with ankylosing spondylitis. *Arthritis Rheum*, 2008, 58, s. 3063–3070.
- 23 van der Heijde, D. – Salonen, D. – Weissman, B. N., et al.: Assessment of radiographic progression in the spines of patients with ankylosing spondylitis treated with adalimumab for up to 2 years. *Arthritis Res Ther*, 2009, 11, R127.
- 24 Baraliakos, X. – Haibel, H. – Listing, J., et al.: Continuous long-term anti-TNF therapy does not lead to an increase in the rate of new bone formation over 8 years in patients with ankylosing spondylitis. *Ann Rheum Dis*, 2014, 73, s. 710–715.

Baricitinib a jeho postavení v léčbě – současné možnosti léčby revmatoidní artritidy

MUDr. Zdeněk Fojtík, Ph.D. Revmatologická ambulance, Interní hematologická a onkologická klinika, FN a LF MU, Brno

- 1 Smolen, J. S. – Landewé, R. – Bijlsma, J., et al.: EULAR recommendations for the management of rheumatoid arthritis with synthetic and biological disease-modifying antirheumatic drugs: 2016 update. *Ann Rheum Dis*, 2017, 76, s. 960–977.
- 2 Meyer, D. M. – Jossan, M. I. – Li, X., et al.: Anti-inflammatory activity and neutrophil reduction mediated by the JAK1/JAK3 inhibitor, CP-690,550 in rat adjuvant-induced arthritis. *J Inflamm*, 2010, 7, s. 41.
- 3 Ghoreschi, K. – Jesson, M. I. – Li, X., et al.: Modulation of innate and adaptive immune responses by tofacitinib (CP-690,550). *J Immunol*, 2011, 186, s. 4234–4243.
- 4 O'Sullivan, L. A. – Liongue, C. – Lewis, R. S., et al.: Cytokine receptor signaling through the Jak-Stat-Socs path way in disease. *Mol Immunol*, 2007, 44, s. 2497–2506.
- 5 Hodge, J. A. – Kawabata, T. T. – Krishnaswami, S., et al.: The mechanism of action of tofacitinib – an oral Janus kinase inhibitor for the treatment of rheumatoid arthritis. *Clin Exp Rheumatol*, 2016, 34, s. 318–328.
- 6 Fleischmann, R. – Schiff, M. – van der Heijde, D., et al.: Baricitinib, methotrexate, or combination in patients with rheumatoid arthritis and no or limited prior disease-modifying antirheumatic drug treatment. *Arthritis Rheumat*, 2017, 69, s. 506–517.
- 7 Taylor, P. C. – Keystone, E. C. – van der Heijde, D., et al.: Baricitinib versus placebo or adalimumab in rheumatoid arthritis. *N Engl J Med*, 2017, 376, s. 652–662.
- 8 Dougados, M. – van der Heijde, D. – Chen, Y., et al.: Baricitinib in patients with inadequate response or intolerance to convention al synthetic DMARDs: results from the RA-BUILD study. *Ann Rheum Dis*, 2017, 76, s. 88–95.
- 9 Genovese, M. C. – Kremer, J. – Zamani, O., et al.: Baricitinib in patients with refractory rheumatoid arthritis. *M Engl J Med*, 2016, 374, s. 1243–1252.
- 10 Smolen, J. – Genovese, M. C. – Takeuchi, T., et al.: Safety profile of baricitinib in patients with active rheumatoid arthritis withover 2 years median time in treatment. *J Rheumatol*, 2019, 46, s. 7–18.
- 11 Smolen, J. S., et al.: Safety profile of baricitinib in patients with active rheumatoid arthritis: an integrated analysis. The European League Against Rheumatism (EULAR); Londýn, Anglie, 8.–11. 6. 2016, poster THU0166.
- 12 Singh, J. A. – Saag, K. G. – Bridges, S. L. Jr., et al.: 2015 American College of Rheumatology Guideline for the treatment of rheumatoid arthritis. *Arthritis Rheumatol*, 2016, 68, s. 1–26.
- 13 Dostupné z: <http://www.sukl.cz/modules/medication/detail.php?code=0219356&tab=prices>, vyhledáno 27. 2. 2019.

Novinky v léčbě psoriatické artritidy

MUDr. Martin Žurek III. interní klinika – nefrologická, revmatologická a endokrinologická LF UP a FN Olomouc

- Olivieri, I. – D'Angelo, S. – Palazzi, C., et al.: Advances in the management of psoriatic arthritis. *Nat Rev Rheumatol*, 2014, 10, s. 531–542.
- Scarpa, R. – Ayala, F. – Caporaso, N., et al.: Psoriasis, psoriatic arthritis, or psoriatic disease? *J Rheumatol*, 2006, 33, s. 210–212.
- Gladman, D. D.: Psoriatic arthritis. In: Harris, E. D. Jr. – Budd, R. C. – Firestein, G. S., et al.: *Kelley's Text Book of Rheumatology*. Philadelphia, PA, W. B. Saunders co.; 2004, s. 1155–1164.
- Queiro, R. – Torre, J. C. – Belzunegui, J., et al.: Clinical features and predictive factors in psoriatic arthritis-related uveitis. *Semin Arthritis Rheum*, 2002, 31, s. 264–270.
- Mallbris, L. – Ritchlin, C.T. – Stähle, M.: Metabolic disorders in patients with psoriasis and psoriatic arthritis. *Curr Rheumatol Rep*, 2006, 8, s. 355–363.
- Gladman, D. D.: Quality of life: psoriatic arthritis. In: Gordon, K. B. – Ruderman, E. M. (eds.): *Psoriasis and Psoriatic Arthritis: An Integrated Approach*. Berlin, Heidelberg, Springer-Verlag, 2005, s. 118–123.
- McHugh, N. J. – Balachrishnan, C. – Jones, S. M.: Progression of peripheral joint disease in psoriatic arthritis: a 5-yr prospective study. *Rheumatology*, 2003, 42, s. 778–783.
- Coates, L. C. – Kavanaugh, A. – Mease, P. J. et al.: Group for research and assessment of psoriasis and psoriatic arthritis 2015 treatment recommendations for psoriatic arthritis. *Arthritis Rheumatol*, 2016, 68, s. 1060–1071.
- Gossec, L. – Smolen, J. S. – Ramiro, S. et al.: European League Against Rheumatism (EULAR) recommendations for the management of psoriatic arthritis with pharmacological therapies: 2015 update. *Ann Rheum Dis*, 2016, 75, s. 499–510.
- Coates, L. C. – Moverley, A. R. – McParland, L., et al.: Effect of tight control of inflammation in early psoriatic arthritis (TICOPA): a UK multicentre, open-label, randomised controlled trial. *Lancet*, 2015, 386, s. 2489–2498.
- Olivieri, I. – D'Angelo, S. – Palazzi, C.: Emerging drugs for psoriatic arthritis. *Expert Opin Emerg Drugs*, 2010, 15, s. 399–414.
- de Vlam, K. – Lories, R. J. – Janssens, S.: Sustained improvement in clinical measures of psoriatic arthritis in etanercept 3-year results in an inception cohort. *Ann Rheum Dis*, 2008, 67, suppl. II, s. 525.
- Antoni, C. E. – Kavanaugh, A. – van der Heijde, D., et al.: Two-year efficacy and safety of infliximab treatment in patients with active psoriatic arthritis: findings of the Infliximab Multinational Psoriatic Arthritis Controlled Trial (IMPACT). *J Rheumatol*, 2008, 35, s. 869–876.
- Van den Bosch, F. – Manger, B. – Goupille, P., et al.: Effectiveness of adalimumab in treating patients with active psoriatic arthritis and predictors of good clinical responses for arthritis, skin and nail lesions. *Ann Rheum Dis*, 2010, 69, s. 394–399.
- Kavanaugh, A. – van der Heijde, D. – McInnes, I. B., et al.: Golimumab in psoriatic arthritis: one-year clinical efficacy, radiographic, and safety results from a phase III, randomized, placebo-controlled trial. *Arthritis Rheum*, 2012, 64, s. 2504–2517.
- van der Heijde, D. – Fleischmann, R. – Wollenhaupt, J., et al.: Effect of different imputation approaches on the evaluation of radiographic progression in patients with psoriatic arthritis: results of the RAPID-PsA 24-week phase III double-blind randomised placebo-controlled study of certolizumab pegol. *Ann Rheum Dis*, 2014, 73, s. 233–237.
- Glintborg, B. – Østergaard, M. – Dreyer, L., et al.: Treatment response, drug survival, and predictors there of in 764 patients with psoriatic arthritis treated with anti-tumor necrosis factor α therapy: results from the nation wide Danish DANBIO registry. *Arthritis Rheum*, 2011, 63, s. 382–390.
- Eder, L. – Chandran, V. – Schentag, C. T., et al.: Time and predictors of response to tumour necrosis factor- α blockers in psoriatic arthritis: an analysis of a longitudinal observational cohort. *Rheumatology*, 2010, 49, s. 1361–1366.
- Saougou, I. – Markatseli, T. E. – Papagoras, C., et al.: Sustained clinical response in psoriatic arthritis patients treated with anti-TNF agents: a 5-year open-label observational cohort study. *Semin Arthritis Rheum*, 2011, 40, s. 398–406.
- Glintborg, B. – Østergaard, M. – Dreyer, L., et al.: Treatment response, drug survival, and predictors there of in 764 patients with psoriatic arthritis treated with anti-tumor necrosis factor α therapy: results from the nation wide Danish DANBIO registry. *Arthritis Rheum*, 2010, 49, s. 382–390.
- McInnes, I. B. – Kavanaugh, A. – Gottlieb, A. B. et al.: PSUMMIT 1 Study Group: Efficacy and safety of ustekinumab in patients with active psoriatic arthritis: 1 year results of the phase 3, multicentre, double-blind, placebo-controlled PSUMMIT 1 trial. *Lancet*, 2013, 382, s. 780–789.
- Ritchlin, C. – Rahman, P. – Kavanaugh, A., et al.; PSUMMIT 2 Study Group: Efficacy and safety of the anti-IL-12/23 p40 monoclonal antibody, ustekinumab, in patients with active psoriatic arthritis despite conventional non-biological and biological anti-tumour necrosis factor therapy: 6-month and 1-year results of the phase 3, multicentre, double-blind, placebo-controlled, randomised PSUMMIT 2 trial. *Ann Rheum Dis*, 2014, 73, s. 990–999.
- Kavanaugh, A. – Ritchlin, C. – Rahman, P., et al.; PSUMMIT-1 and 2 Study Groups: Ustekinumab, an anti-IL-12/23 p40 monoclonal antibody, inhibits radiographic progression in patients with active psoriatic arthritis: results of an integrated analysis of radiographic data from the phase 3, multicentre, randomised, double-blind, placebo-controlled PSUMMIT-1 and PSUMMIT-2 trials. *Ann Rheum Dis*, 2014, 73, s. 1000–1006.
- Mease, P. J. – McInnes, I. B. – Kirkham, B., et al.; FUTURE 1 Study Group: Secukinumab inhibition of interleukin-17A in patients with psoriatic arthritis. *N Engl J Med*, 2015, 373, s. 1329–1339.
- McInnes, I. B. – Mease, P. J. – Kirkham, B., et al.; FUTURE 2 Study Group: Secukinumab, a human anti-interleukin-17A monoclonal antibody, in patients with psoriatic arthritis (FUTURE 2): a randomised, double-blind, placebo-controlled, phase 3 trial. *Lancet*, 2015, 386, s. 1137–1146.
- Mease, P. J. – Kavanaugh, A. – Reimold, A., et al.: Secukinumab provides sustained improvements in the signs and symptoms in psoriatic arthritis: final 5 year efficacy and safety results from a phase 3 trial. *Arthritis Rheumatol*, 2018, 70, suppl. 10.
- Mease, P. J. – van der Heijde, D. – Ritchlin, C. T., et al.; SPIRIT-P1 Study Group: Ixekizumab, an interleukin-17A specific monoclonal antibody, for the treatment of biologic-naïve patients with active psoriatic arthritis: results from the 24-week randomised, double-blind, placebo-controlled and active (adalimumab)-controlled period of the phase III trial SPIRIT-P1. *Ann Rheum Dis*, 2017, 76, s. 79–87.
- Nash, P. – Kirkham, B. – Okada, M., et al.: Ixekizumab for the treatment of patients with active psoriatic arthritis and an inadequate response to tumour necrosis factor inhibitors: results from the 24-week randomised, double-blind, placebo-controlled period of the SPIRIT-P2 phase 3 trial. *Lancet*, 2017, 389, s. 2317–2327.
- Philip, J. – Mease, M. D. – Mark, C., et al.: Brodalumab, an anti-IL17RA monoclonal antibody, in psoriatic arthritis. *N Engl J Med*, 2014, 370, s. 2295–2306.
- Papp, K. A. – Reich, K. – Paul, C., et al.: A prospective phase III, randomized, double-blind, placebo-controlled study of brodalumab in patients with moderate-to-severe plaque psoriasis. *Br J Dermatol*, 2016, 175, s. 273–286.
- Kavanaugh, A. – Mease, P. J. – Gomez-Reino, J. J., et al.: Treatment of psoriatic arthritis in a phase 3 randomised, placebo-controlled trial with apremilast, an oral phosphodiesterase 4 inhibitor. *Ann Rheum Dis*, 2014, 73, s. 1020–1026.
- Nash, P. – Ohson, K. – Walsh, J., et al.: Early and sustained efficacy with apremilast monotherapy in biological-naïve patients with psoriatic arthritis: a phase IIB, randomised controlled trial (ACTIVE). *Ann Rheum Dis*, 2018, 77, s. 690–698.
- Gladman, D. D. – Cook, R. J. – Schentag, C., et al.: The clinical assessment of patients with psoriatic arthritis: results of a reliability study of the spondyloarthritis research consortium of Canada. *J Rheumatol*, 2004, 31, s. 1126–1131.
- Gladman, D. – Rigby, W. – Azevedo, V. F., et al.: Tofacitinib for psoriatic arthritis in patients with an inadequate response to TNF inhibitors. *N Engl J Med*, 2017, 377, s. 1525–1536.
- Mease, P. – Hall, S. – FitzGerald, O., et al.: Tofacitinib or adalimumab versus placebo for psoriatic arthritis. *N Engl J Med*, 2017, 377, s. 1537–1550.
- Mease, P. – Genovese, M. C. – Gladstein, G., et al.: Abatacept in the treatment of patients with psoriatic arthritis: results of a six-month, multicenter, randomized, double-blind, placebo-controlled, phase II trial. *Arthritis Rheum*, 2011, 63, s. 939–948.
- Deodhar, A. – Gottlieb, A. B. – Boehncke, W. H. et al.: Efficacy and safety of guselkumab in patients with active psoriatic arthritis: a randomised, double-blind, placebo-controlled, phase 2 study. *Lancet*, 2018, 391, s. 2213–2224.
- Mease, P. J. – Kellner, H. – Morita, A., et al.: Efficacy and safety of risankizumab, a selective IL-23p19 inhibitor, in patients with active psoriatic arthritis over 24 weeks: results from a phase 2 trial. *Ann Rheum Dis*, 2018, 77, suppl. 2, s. 200–201.
- Yiu, Z. Z. – Warren, R. B.: The potential utility of tildrakizumab: an interleukin-23 inhibitor for the treatment of psoriasis. *Expert Opin Investig Drugs*, 2017, 26, s. 243–249.
- A Long term study to demonstrate the safety and efficacy of tildrakizumab in subjects with psoriatic arthritis and ankylosing spondylitis or non-radiographic axial spondyloarthritis. Dostupné z: <https://clinicaltrials.gov/ct2/show/NCT03552276>, vyhledáno 13. 3. 2019.
- Mease, P. – Coates, L. C. – Helliwell, P. S., et al.: Efficacy and safety of filgotinib, a selective Janus kinase 1 inhibitor, in patients with active psoriatic arthritis (EQUATOR): results from a randomised, placebo-controlled, phase 2 trial. *Lancet*, 2018, 392, s. 2367–2377.
- Kavanaugh, A., et al.: Efficacy of subcutaneous secukinumab in patients with active psoriatic arthritis stratified by prior tumor necrosis factor inhibitor use: results from the randomized placebo-controlled FUTURE 2 study. *J Rheumatol*, 2016, 43, s. 1713–1717.
- Deodhar, A. A. – Gladman, D. D. – McInnes, I. B., et al.: Post-marketing safety of secukinumab in adult patients with psoriasis, psoriatic arthritis and ankylosing spondylitis: cumulative analysis across >96,000 patient-treatment years exposure. *Arthritis Rheumatol*, 2018, 70, suppl. 10, abstrakt.

Originální, nebo biosimilární adalimumab?

MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha

- Carswell, E. A. – Old, L. J. – Kassel, R. L., et al.: An endotoxin-induced serum factor that causes necrosis of tumors. *Proc Natl Acad Sci U S A*, 1975, 72, s. 3666.
- Beutler, B. – Cerami, A.: The biology of cachectin/TNF- α primary mediator of the host response. *Annu Rev Immunol*, 1989, 7, s. 625.
- Roach, D. R. – Bean, A. G. – Demangel, C., et al.: TNF regulates chemokine induction essential for cell recruitment, granuloma formation, and clearance of mycobacterial infection. *J Immunol*, 2002, 168, s. 4620.
- Koo, S. – Marty, F. M. – Baden, L. R.: Infectious complications associated with immunomodulating biologic agents. *Infect Dis Clin North Am*, 2010, 24, s. 285.
- Mease, P. J.: Adalimumab in the treatment of arthritis. *Ther Clin Risk Manag*, 2007, 3, s. 133.
- Laursen, T. – Hansen, B. – Fisker, S.: Pain perception after subcutaneous injections of media containing different buffers. *Basic Clin Pharmacol Toxicol*, 2006, 98, s. 218–221.
- Heise, T. – Nosek, L. – Dellweg, S., et al.: Impact of injection speed and volume on perceived pain during subcutaneous injections into the abdomen and thigh: a single-centre, randomized controlled trial. *Diabetes Obes Metab*, 2014, 16, s. 971–976.
- Puri, A. – Niewiarowski, A. – Arai, Y., et al.: Pharmacokinetics, safety, tolerability and immunogenicity of FKB327, a new biosimilar medicine of adalimumab/Humira, in healthy subjects. *Br J Clin Pharmacol*, 2017, 83, s. 1405–1415.
- Nash, P. – Vanhoof, J. – Hall, S., et al.: Randomized crossover comparison of injection site pain with 40 mg/0.4 or 0.8 ml formulations of adalimumab in patients with rheumatoid arthritis. *Rheumatol Ther*, 2016, 3, s. 257–270.

Guselkumab – první inhibitor IL-23 v léčbě psoriázy

doc. MUDr. Sypriodn Gkalpaktiotis, Ph.D., MBA | MUDr. Milena Tanczosová Dermatovenerologická klinika 3. LF UK a FNKV, Praha

- De Cid, R. – Riveira-Munoz, E. – Zeeuwen, P. L., et al.: Deletion of the late cornified envelope LCE3B and LCE3C genes as a susceptibility factor for psoriasis. *Nature Genetics*, 2009, 41, s. 211–215.
- Dubertret, L. – Mrowietz, U. – Ranki, A., et al.; EUROPSO Patient Survey Group: European patient perspectives on the impact of psoriasis: the EUROPSO patient membership survey. *Br J Dermatol*, 2006, 155, s. 729–736.
- Egeberg, A. – Skov, L. – Zachariae, C., et al.: Duration of psoriatic skin disease as risk factor for subsequent onset of psoriatic arthritis. *Acta*

dermato-venereologica [online]. 28. 2. 2018.

- 4 Ellinghaus, D. – Ellinghaus, E. – Nair, R. P., et al.: Combined analysis of genome-wide association studies for Crohn disease and psoriasis identifies seven shared susceptibility loci. *Am J Human Genetics*, 2012, 90, s. 636–647.
- 5 Ellinghaus, E. – Ellinghaus, D. – Stuart, P. E., et al.: Genome-wide association study identifies a psoriasis susceptibility locus at TRAF3IP2. *Nature Genetics*, 2010, 42, s. 991–995.
- 6 Strange, A. – Capon, F. – Spencer, C. C., et al.: Genetic Analysis of Psoriasis Consortium & the Wellcome Trust Case Control Consortium 2: A genome-wide association study identifies new psoriasis susceptibility loci and an interaction between HLA-C and ERAP1. *Nature Genetics*, 2010, 42, s. 985–990.
- 7 Nestle, F. O. – Kaplan, D. H. – Barker, J.: Psoriasis. *New Eng J Med*, 2009, 361, s. 496–509.
- 8 Megna, M. – Balato, A. – Raimondo, A., et al.: Guselkumab for the treatment of psoriasis. *Exp Opin Biol Ther*, 2018, 18, s. 4, 459–468.
- 9 Ema.europa.eu, 2019, dostupné z: https://www.ema.europa.eu/en/documents/product-information/tremfya-epar-product-information_cs.pdf, vyhledáno 1. 3. 2019.
- 10 Chan, T. C. – Hawkes, J. E. – Krueger, J. G.: Interleukin 23 in the skin: role in psoriasis pathogenesis and selective interleukin 23 blockade as treatment. *Ther Adv Chronic Dis*, 2018, 9, s. 111–119.
- 11 Clinical Review Report: Guselkumab (Tremfya): (Janssen Inc.): Indication: For the treatment of adult patients with moderate-to-severe plaque psoriasis who are candidates for systemic therapy or

phototherapy. Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; březen 2018, dostupné z: <https://www.ncbi.nlm.nih.gov/books/NBK534040/>, vyhledáno 11. 3. 2019.

- 12 Zenas Z. N. Y. – Warren, R. B.: Guselkumab for psoriasis: A critical appraisal of Phase III studies. *Immunotherapy*, doi.org/10.2217/imt-2017-0106.
- 13 Griffiths, C. E. M., et al.: Maintenance of response with guselkumab for up to 3 years' treatment in the phase 3 VOYAGE 1 trial of patients with plaque psoriasis. FCD 2018, prezentace.
- 14 Dostupné z: <https://www.ema.europa.eu/en/medicines>, vyhledáno 13. 3. 2019.
- 15 Souhrn údajů o přípravku Tremfya 100 mg, datum revize textu: 26. 11. 2018.

Přínos tofacitinibu v léčbě psoriatické artritidy

MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha

- 1 Gossec, L. – Smolen, J. S. – Ramiro, S., et al.: European League Against Rheumatism (EULAR) recommendations for the management of psoriatic arthritis with pharmacological therapies: 2015 update. *Ann Rheum Dis*, 2016, 75, s. 499–510.
- 2 Coates, L. C. – Kavanaugh, A. – Mease, P. J., et al.: Group for Research and Assessment of Psoriasis and Psoriatic Arthritis 2015 treatment recommendations for psoriatic arthritis. *Arthritis Rheumatol*, 2016, 68, s. 1060–1071.
- 3 Ghoreschi, K. – Laurence, A. – O'Shea, J. J.: Janus kinases in immune cell signaling. *Immunol Rev*, 2009, 228, s. 273–287.

- 4 Mease, P. – Hall, S. – Fitzgerald, O., et al.: Tofacitinib or adalimumab versus placebo for psoriatic arthritis. *N Engl J Med*, 2017, 377, s. 1537–1550.

Postavení tofacitinibu v léčbě revmatoidní artritidy

MUDr. Jiří Slíva, Ph.D. Ústav farmakologie 3. LF UK, Praha

- 1 Cohen, S. B. – Tanaka, Y. – Mariette, X., et al.: Long-term safety of tofacitinib for the treatment of rheumatoid arthritis up to 8.5 years: integrated analysis of data from the global clinical trials. *An Rheum Dis*, dostupné z: <http://dx.doi.org/10.1136/annrheumdis-2016-210457>, vyhledáno 17. 3. 2019.
- 2 Caporali, R. – Zavaglia, D.: Real-world experience with tofacitinib for treatment of rheumatoid arthritis. *Clin Exp Rheumatol*, 2018, Epub před tiskem.
- 3 Harnett, J. – Gerber, R. – Gruben, D., et al.: Evaluation of real-world experience with tofacitinib compared with adalimumab, etanercept, and abatacept in RA patients with 1 previous biologic DMARD: Data from a U.S. Administrative Claims Database. *J Manag Care Spec Pharm*, 2016, 22, s. 1457–1471.
- 4 Smith, T. – Harnett, J. – Gruben, D., et al.: Real-world experience with tofacitinib versus adalimumab and etanercept in biologic-naive patients with RA previously treated with methotrexate: Data from a US Administrative Healthcare Insurance Claims Database. *Arthritis Rheumatol*, 2017, 69, s. 10, abstrakt 2831.
- 5 Kremer, J. M.: The Corrona US registry of rheumatic and autoimmune diseases. *Clin Exp Rheumatol*, 2016, 34, s. 96–99.
- 6 Reed, G. V. – Gerber, R. A. – Shan, Y.: TNFi and tofacitinib monotherapy and comparative effectiveness in clinical practice: results from

- Corrona registry. *Ann Rheum Dis*, 2017, 7, s. 60.
- 7 Kavanaugh, A. F. – Geier, J. – Bingham, C. I., et al.: Real world results from a post-approval safety surveillance of tofacitinib (Xeljanz): Over 3 year results from an ongoing US-based rheumatoid arthritis registry. *Arthritis Rheumatol*, 2016, 68, s. 10, abstrakt 2595.
- 8 Mori, S. – Yoshitama, T. – Ueki, Y.: Tofacitinib therapy for rheumatoid arthritis: A direct comparison study between biologic-naive and experienced patients. *Intern Med*, 2018, 57, s. 663–670.
- 9 Iwamoto, N. – Tsuji, S. – Takatani, A., et al.: Efficacy and safety at 24 weeks of daily clinical use of tofacitinib in patients with rheumatoid arthritis. *PLoS One*, 2017, 12, s. e0177057.

Belimumab v léčbě systémového lupus erythematoses – nové poznatky

MUDr. Hana Ciferská, Ph.D. | MUDr. Kateřina Zegzulková Revmatologický ústav a Revmatologická klinika 1. LF UK, Praha

MUDr. Jan Vachek, Ph.D. Klinika nefrologie 1. LF UK a VFN, Praha

- 1 Rahman, A. – Isenberg, D. A.: Systemic lupus erythematosus. *N Engl J Med*, 2008, 358, s. 929–939.
- 2 Horák, P. – Tegzová, D. – Závada, J., et al.: Doporučení ČRS pro léčbu nemocných se SLE. *Čes Revmatol*, 2013, 21, s. 110–122.
- 3 Stohl, W. – Metyas, S. – Tan, S. M., et al.: B lymphocyte stimulator over expression in patients with systemic lupus erythematosus: longitudinal observations. *Arthritis Rheum*, 2003, 48, s. 3475–3486.
- 4 Jacob, N. – Stohl, W.: Cytokine disturbances in systemic lupus erythematosus. *Arthritis Res Ther*, 2011, 13, s. 228.
- 5 Stohl, W.: BlyS fulness does not equalbliss fulness in systemic lupus erythematosus: a therapeutic role for BlyS antagonists. *Curr Dir Autoimmun*, 2005, 8, s. 289–304.
- 6 Merrill, J. T. – Ginzler, E. M. – Wallace, D. J.: Long-term safety profile of belimumab plus standard therapy in patients with systemic lupus erythematosus. *Arthritis Rheum*, 2012, 64, s. 3364–3373.
- 7 European Medicines Agency. Benlysta (belimumab): EU Summary of Product Characteristics, dostupné z: http://www.ema.europa.eu/docs/cs_CZ/document_library/EPAR_-_Product_Information/human/002015/WC500110150.pdf, vyhledáno 15. 12. 2018.
- 8 Furie, R. – Stohl, W. – Ginzler, E. M., et al.: Belimumab Study Group: Biologic activity and safety of belimumab, a neutralizing anti-B-lymphocyte stimulator (BlyS) monoclonal antibody: a phase I trial in patients with systemic lupus erythematosus. *Arthritis Res Ther*, 2008, 10, s. 109.
- 9 Wallace, D. J. – Stohl, W. – Furie, R. A., et al.: A phase II, randomized, double-blind, placebo-controlled, dose-ranging study of belimumab in patients with active systemic lupus erythematosus. *Arthritis Rheum*, 2009, 61, s. 1168–1178.
- 10 Navarra, S. V. – Guzmán, R. M. – Gallacher, A. E., et al.: BLISS-52 Study Group: Efficacy and safety of belimumab in patients with active systemic lupus erythematosus: a randomised, placebo-controlled, phase 3 trial. *Lancet*, 2011, 377, s. 721–731.
- 11 Furie, R. – Petri, M. – Zamani, O., et al.: BLISS-76 Study Group: A phase III, randomized, placebo-controlled study of belimumab, a monoclonal anti body that inhibits B lymphocyte stimulator, in patients with systemic lupus erythematosus. *Arthritis Rheum*, 2011, 63, s. 3918–3930.
- 12 Furie, R. – Petri, M. A. – Strand, V., et al.: Clinical, laboratory and health-related quality of life correlates of Systemic Lupus Erythematosus Responder Index response: a post hoc analysis of the phase 3 belimumab trials. *Lupus Sci Med*, 2014, 1, s. e000031.
- 13 Dooley, M. – Houssiau, F. – Aranow, C., et al.: Effect of belimumab treatment on renal outcomes: results from the phase 3 belimumab clinical trials in patients with SLE. *Lupus*, 2013, 22, s. 63–72.
- 14 Poh, Y. J. – Baptista, B. – D'Cruz, D. P.: Subcutaneous and intravenous belimumab in the treatment of systemic lupus erythematosus: a review of data on subcutaneous and intravenous administration. *Expert*

- Rev Clin Immunol*, 2017, 13, s. 925–938
- 15 Stohl, W. – Schwarting, A. – Okada, M., et al.: Efficacy and safety of subcutaneous belimumab in systemic lupus erythematosus: a fifty-two-week randomized, double-blind, placebo-controlled study. *Arthritis Rheumatol*, 2017, 69, s. 1016–1027.
- 16 Ahmed, H. M. – Abohamad, S. – Elfishawi, M., et al.: Subcutaneous formulation of belimumab in treatment of systemic lupus erythematosus: a critical review with focus on safety and satisfaction. *Patient Prefer Adherence*, 2018, 12, s. 2475–2479.
- 17 Collins, C. E. – Dall'Era, M. – Kan, H., et al.: Response to belimumab among patients with systemic lupus erythematosus in clinical practice settings: 24-month results from the OBSERVE study in the USA. *Lupus Sci Med*, 2016, 3, s. e000118.
- 18 Schwarting, A. – Schroeder, J. O. – Alexander, T., et al.: First real-world insights into belimumab use and outcomes in routine clinical care of systemic lupus erythematosus in Germany: Results from the OBSERVE Germany study. *Rheumatol Ther*, 2016, 3, s. 271–290.
- 19 Ginzler, E. M. – Wallace, D. J. – Merrill, J. T., et al.: Disease control and safety of belimumab plus standard therapy over 7 years in patients with systemic lupus erythematosus. *J Rheumatol*, 2014, 41, s. 300–309.
- 20 Bruce, I. N. – Urowitz, M. – van Vollenhoven, R., et al.: Long-term organ damage accrual and safety in patients with SLE treated with belimumab plus standard of care. *Lupus*, 2016, 25, s. 699–709.

Analýza pacientů na terapii secukinumabem na Dermatovenerologické klinice 3. LF UK a FNKV Praha

MUDr. Jan Hugo | doc. MUDr. Spyridon Gkalpakiotis, Ph.D., MBA Dermatovenerologická klinika 3. LF UK a FNKV, Praha

- 1 Aggarwal, S. – Ghilardi, N. – Xie, M. H., et al.: Interleukin-23 promotes a distinct CD4 T cell activation state characterized by the production of interleukin-17. *J Biol Chem*, 2003, 278, s. 1910–1914.
- 2 Alowes, M. A. – Kikuchi, T. – Fuentes-Duculan, J., et al.: Psoriasis vulgaris lesions contain discrete populations of Th1 and Th17T cells. *J Invest Dermatol*, 2008, 128, s. 1207–1211.
- 3 Lönnberg, A. S. – Zachariae, C. – Skov, L.: Targeting of interleukin-17 in the treatment of psoriasis. *Clin Cosmet Investig Dermatol*, 2014, 7, s. 251–259.
- 4 Malakouti, M. – Brown, G. E. – Wang, E., et al.: The role of IL-17 in

- psoriasis. *J Dermatol Treat*, 2015, 26, s. 41–44.
- 5 Bissonnette, R. – Luger, T. – Thaci, D., et al.: Secukinumab demonstrates high sustained efficacy and a favourable safety profile in patients with moderate-to-severe psoriasis through 5 years of treatment (SCULPTURE Extension Study). *J Eur Acad Dermatol Venereol*, 2018, 32,

- s. 1468–3083.
- Jensen, P. – Skov, L.: Psoriasis and Obesity. *Dermatology*, 2016, 232, s. 633–639.
 - Armstrong, A. W. – Harskamp, C. T. – Dhillon, J. S., et al.: Psoriasis and smoking: a systematic review and meta-analysis. *Br J Dermatol*, 2014, 170, s. 304–314.
 - Bar Yehuda, S. – Axlerod, R. – Toker, O., et al.: The association of Inflammatory Bowel diseases with autoimmune disorders: a population-based report from the epi-IIRN. *J Crohns Colitis*, 9, 10, 2018, jyy166, <https://doi.org/10.1093/ecco-jcc/jyy166>.
 - Sticherling, M.: Psoriasis and autoimmunity. *Autoimmun Rev*, 2016, 15, s. 1167–1170.
 - Šedová L.: Psoriatická artritida v ambulanci praktického lékaře. *Med Pro Praxi*, 2007, 3, s. 109–112.
 - Sunkureddi, P. – Latremouille-Viau, D. – Meiselbach, M. K., et al.: Characteristics of patients with psoriatic arthritis receiving

secukinumab and reasons for initiation: A US retrospective medical chart review. *Rheumatol Ther*, 2019, 6, s. 89–100.

- van de Kerkhof, P. C., et al.: Secukinumab long-term safety experience: A pooled analysis of 10 phase II and III clinical studies in patients with moderate to severe plaque psoriasis. *J Am Acad Dermatol*, 2016, 75, s. 83–98.e4.

Úloha biologické léčby v terapii hypereozinofilních stavů

MUDr. Tomáš Milota Ústav imunologie 2. LF UK a FN v Motole, Praha

- Kopf, M., et al.: IL-5-deficient mice have a developmental defect in CD5+ B-1 cells and lack eosinophilia but have normal antibody and cytotoxic T cell responses. *Immunity*, 1996, 4, s. 15–24.
- Willebrand, R. – Voehringer, D.: Regulation of eosinophil development and survival. *Curr Opin Hematol*, 2017, 24, s. 9–15.
- Park, Y. M. – Bochner, B. S.: Eosinophil survival and apoptosis in health and disease. *Allergy Asthma Immunol Res*, 2010, 2, s. 87–101.
- Provost, V., et al.: CCL26/eotaxin-3 is more effective to induce the migration of eosinophils of asthmatics than CCL11/eotaxin-1 and CCL24/eotaxin-2. *J Leukoc Biol*, 2013, 94, s. 213–222.
- Kvarnhammar, A. M. – Cardell, L. O.: Pattern-recognition receptors in human eosinophils. *Immunology*, 2012, 136, s. 11–20.
- Ramirez, G. A., et al.: Eosinophils from Physiology to Disease: A Comprehensive Review. *Biomed Res Int*, 2018, 9095275, doi: 10.1155/2018/9095275.
- Jacobsen, E. A., et al.: The expanding role(s) of eosinophils in health and disease. *Blood*, 2012, 120, s. 3882–3890.
- Roufosse, F. – Weller, P. F.: Practical approach to the patient with hypereosinophilia. *J Allergy Clin Immunol*, 2010, 126, s. 39–44.
- Nutman, T. B.: Evaluation and differential diagnosis of marked, persistent eosinophilia. *Immunol Allergy Clin North Am*, 2007, 27, s. 529–549.
- Dulohery, M. M., et al.: Lung involvement in hypereosinophilic syndromes. *Respir Med*, 2011, 105, s. 114–121.
- Gioffredi, A., et al.: Eosinophilic granulomatosis with polyangiitis: an overview. *Front Immunol*, 2014, 5, s. 549.
- Lefevre, G., et al.: The lymphoid variant of hypereosinophilic syndrome: study of 21 patients with CD3-CD4+ aberrant T-cell phenotype. *Medicine (Baltimore)*, 2014, 93, s. 255–266.
- Gotlib, J.: How I treat atypical chronic myeloid leukemia. *Blood*, 2017, 129, s. 838–845.
- Klion, A. D.: How I treat hypereosinophilic syndromes. *Blood*, 2015, 126, s. 1069–1077.
- Abonia, J. P. – Putnam, P. E.: Mepolizumab in eosinophilic disorders. *Expert Rev Clin Immunol*, 2011, 7, s. 411–417.
- Hom, S. – Pisano, M.: Reslizumab (Cinqair): An interleukin-5 antagonist for severe asthma of the eosinophilic phenotype. *P T*, 2017, 42, s. 564–568.
- Laviolette, M., et al.: Effects of benralizumab on airway eosinophils in asthmatic patients with sputum eosinophilia. *J Allergy Clin Immunol*, 2013, 132, s. 1086–1096.e5.
- Pelaia, C., et al.: Benralizumab in the treatment of severe asthma: design, development and potential place in therapy. *Drug Des Devel Ther*, 2018, 12, s. 619–628.
- Roufosse, F.: Targeting the interleukin 5 pathway for treatment of eosinophilic conditions other than asthma. *Front Med (Lausanne)*, 2018, 5, s. 49.

Imunoterapie karcinomu plic

MUDr. Leona Kubková Pneumologická klinika 2. LF UK a FN v Motole, Praha

- Reck, M. – Rodríguez-Abreu, D. – Robinson, A. G., et al.: Pembrolizumab versus chemotherapy for PD-L1-positive non-small cell lung cancer. *N Engl J Med*, 2016, 375, s. 1823–1833.
- Reck, M. – Rodríguez-Abreu, D. – Robinson, A. G., et al.: Updated analysis of KEYNOTE-024: Pembrolizumab versus platinum-based chemotherapy for advanced non-small-cell lung cancer with PD-L1 tumor proportion score of 50% or greater. *J Clin Oncol*, 8, 1, 2019, JCO1800149, Epub před tiskem.
- Brahmer, J. R. – Rodríguez-Abreu, D. – Robinson, A. G., et al.: Progression after the next line of therapy (PFS2) and updated OS among patients (pts) with advanced NSCLC and PD-L1 tumor proportion score (TPS) ≥50% enrolled in KEYNOTE-024. 2017 ASCO Annual Meeting. *J Clin Oncol*, 2017, 35, suppl., abstrakt 9000.
- Lopes, G. – Wu, Y. L. – Kudaba, I., et al.: Pembrolizumab (pembro) versus platinum-based chemotherapy (chemo) as first-line therapy for advanced/metastatic NSCLC with a PD-L1 tumor proportion score (TPS) ≥ 1%: Open-label, phase 3 KEYNOTE-042 study. Late breaking abstract presentation at: 2018 ASCO Annual Meeting; 1.–5. 6. 2018; Chicago, IL.
- Papadimitrakopoulou V. – Gadgeel, S. M. – Borghaei, H., et al.: First-line carboplatin and pemetrexed (CP) with or without pembrolizumab (pembro) for advanced nonsquamous NSCLC: Updated results of KEYNOTE-021 cohort G. 2017 ASCO Annual Meeting. Poster Session (Board #420). *J Clin Oncol*, 2017, 35, suppl., abstrakt 9094.
- Gandhi, L. – Rodríguez-Abreu, D. – Gadgeel, S., et al.: Pembrolizumab plus chemotherapy in metastatic non-small-cell lung cancer. *N Engl J Med*, 16, 4, 2018.
- Abreu, D. R. – Garassino, M. C. – Esteban, E., et al.: KEYNOTE-189 study of pembrolizumab (pembro) plus pemetrexed (pem) and platinum vs placebo plus pem and platinum for untreated, metastatic, nonsquamous NSCLC: Does Choice of Platinum Affects Outcomes? *An Oncol*, 2018, 29, suppl. 8, s. viii493–viii547, 10.1093/annonc/mdy292.
- Reck, M., et al.: Primary PFS and safety analyses of a randomized phase III study of carboplatin + paclitaxel +/- bevacizumab, with or without atezolizumab in 1L non-squamous metastatic nscl (IMPOWER150). *An Oncol*, 2017, 28, suppl. 11, mdx760.002, <https://doi.org/10.1093/annonc/mdx760.002>.
- Socinski, M. A., et al.: Atezolizumab for first-line treatment of metastatic nonsquamous NSCLC. *N Engl J Med*, 2018, 378, s. 2288–2301, doi: 10.1056/NEJMoa1716948.
- Socinski, M. A. – Rittmeyer, A. – Shapovalov, D., et al.: IMpower131: Progression-free survival (PFS) and overall survival (OS) analysis of a randomised Phase III study of atezolizumab + carboplatin + paclitaxel. ESMO 2018 Congress, 21. 10. 2018, Poster Discussion session – NSCLC, metastatic 2.
- Paz-Ares, L. – Luft, A. – Vicente, D., et al.: Pembrolizumab plus chemotherapy for squamous non-small-cell lung cancer. *N Engl J Med*, 2018, 379, s. 2040–2051, DOI: 10.1056/NEJMoa1810865.
- Halmos, B. – Luft, A. – Majem, M., et al.: Choice of taxane and outcomes in the KEYNOTE-407 study of pembrolizumab plus chemotherapy for metastatic squamous NSCLC. Abstract MA10.08. IASLC 19th World Conference on Lung Cancer 2018.
- Jotte, R. M., et al.: IMpower131: Primary PFS and safety analysis of a randomized phase III study of atezolizumab + carboplatin + paclitaxel or nab-paclitaxel vs carboplatin + nab-paclitaxel as 1L therapy in advanced squamous NSCLC. *J Clin Oncol*, 2018, 36, suppl.; abstrakt LBA9000.
- Borghaei, H., et al.: Nivolumab + ipilimumab, nivolumab + chemotherapy, and chemotherapy in chemo-naïve patients with advanced non-small cell lung cancer and <1% tumor PD-L1 expression: Results from CheckMate 227. Prezentováno na ASCO 2018 meetingu (ústní prezentace).
- Hellmann, M. D. – Ciuleanu, T. E. – Pluzanski, A., et al.: Nivolumab plus ipilimumab in lung cancer with a high tumor mutational burden. *N Engl J Med*, 2018, 378, s. 2093–2104, DOI: 10.1056/NEJMoa1801946.
- Spigel, D. R., et al.: A phase III study (CheckMate 017) of nivolumab (NIVO); anti-programmed death-1 (PD-1) vs docetaxel (DOC) in previously treated advanced or metastatic squamous (SQ) cell non-small cell lung cancer (NSCLC). *J Clin Oncol*, 2015, 33, suppl.; abstrakt 8009.
- Paz-Ares, L. – Horn, L. – Borghaei, H., et al.: Phase III, randomized trial (CheckMate 057) of nivolumab (NIVO) versus docetaxel (DOC) in advanced non-squamous cell (non-SQ) non-small cell lung cancer (NSCLC). *J Clin Oncol*, 2015, 22, suppl.; abstrakt LBA109.
- Horn, L. – Spigel, D. R. – Vokes, E. E., et al.: Nivolumab versus docetaxel in previously treated patients with advanced non-small-cell lung cancer: Two-year outcomes from two randomized, open-label, phase iii trials (CheckMate 017 and CheckMate 057). *J Clin Oncol*, 2017, 35, s. 3924–3933.
- Herbst, R. S. – Kim, D.-W. – Felip, E., et al.: KEYNOTE-010: Phase 2/3 study of pembrolizumab (MK-3475) vs docetaxel for PD-L1-positive NSCLC after platinum-based therapy. Prezentováno na kongresu ESMO Asia 2015, Singapur, 18.–21. 12. 2015; LBA3 PR.
- Rittmeyer, A. – Barlesi, F. – Waterkamp, D., et al.: Atezolizumab versus docetaxel in patients with previously treated non-small-cell lung cancer (OAK): a phase 3, open-label, multicentre randomised controlled trial. *Lancet*, 2017, 389, s. 255–265.
- von Pawel, J. – Bordon, R. – Satouchi, M., et al.: Long-term survival in patients with advanced non-small-cell lung cancer treated with atezolizumab versus docetaxel: Results from the randomised phase III OAK study. *Eur J Cancer*, 2019, 107, s. 124–132.
- Gadgeel, M. G. – Lukas, R. V. – Goldschmidt, J., et al.: Atezolizumab in patients with advanced non-small cell lung cancer and history of asymptomatic, treated brain metastases: Exploratory analyses of the phase III OAK study. *Lung cancer*, 2019, 128, s. 105–112.
- Antonia, S. J. – Villegas, A. – Daniel, D., et al.: Overall survival with durvalumab after chemoradiotherapy in stage III NSCLC. *N Engl J Med*, 2018, 379, s. 2342–2350.
- Horn, L. – Mansfield, A. S. – Szczesna, A., et al.: First-line atezolizumab plus chemotherapy in extensive-stage small-cell lung cancer. *N Engl J Med*, 2018, 379, s. 2220–2229, doi: 10.1056/NEJMoa1809064.
- Scott, J. A. – Bendell, J. C. – Tailor, M. H., et al.: Phase I/II study of nivolumab with or without ipilimumab for treatment of recurrent small cell lung cancer (SCLC): CA209–032. *J Clin Oncol*, 2015, 33, suppl.; abstrakt 7503.
- Hellmann, M. D. – Ciuleanu, T. E. – Pluzanski, A., et al.: Nivolumab plus ipilimumab in lung cancer with a high tumor mutational burden. *N Engl J Med*, 2018, 378, s. 2093–2104.
- Hellmann, M. D. – Callahan, M. K. – Awad, M. M., et al.: Tumor mutation burden and efficacy of nivolumab monotherapy and in combination with ipilimumab in small cell lung cancer. *Cancer Cell*, 2018, 33, s. 853–861.
- Chung, H.-Ch. – Lopez-Martin, J. A. – Kao, S. Ch.-H., et al.: Phase 2 study of pembrolizumab in advanced small-cell lung cancer (SCLC): KEYNOTE-158. *J Clin Oncol*, 2018, 36, suppl., s. 8506–8506.
- Dostupné z: <https://clinicaltrials.gov/ct2/show/NCT03066778>, vyhledáno 22. 2. 2019.

Novinky v biologické léčbě karcinomu plic

MUDr. Michaela Heroutová | MUDr. Lenka Jakubíková Klinika nemocí plicních a tuberkulózy LF MU a FN Brno

- Mok, T. S. – Wu, Y. I. – Ahn, M. J., et al.: Osimertinib or platinum-pemetrexed in EGFR T790M-positive lung cancer. *N Engl J Med*, 2017, 376, s. 629–640.
- Dostupné z: <https://www.linkos.cz/lekar-a-multidisciplinari-tym/diagnostika-a-lecba/modra-kniha-cos/> aktuální vydání modré knihy/24-8-zhoubny-novotvar-bronchu-a-plice-c34/, vyhledáno 3. 1. 2019.
- Hida, T. – Nokihara, H. – Kondo, M., et al.: Alectinib versus crizotinib in patients with ALK-positive non-small-cell lung cancer (J-ALEX): an open-label, randomised phase 3 trial. *Lancet*, 2017, 390, s. 29–39.
- Skříčková, J.: Karcinom plic. In: Kolek, V. – Kašák, V. – Vašáková, M., et al.: *Pneumologie*. 2017, Maxdorf, s. 331, 645. Dostupné z: <http://www.uzis.cz/registry-nzis/hor>, vyhledáno 9. 1. 2019.
- Vašíková, A.: Principy biologické léčby karcinomu plic. In: Skříčková J. – Kolek V., et al.: *Základy moderní pneumoonkologie*. 2017, Maxdorf,

Praha, s. 163–169.
 6 SPC přípravku Tagrisso
 7 Popat, S.: Osimertinib as first-line treatment in EGFR-mutated non-small-cell lung cancer. *N Engl J Med*, 2018, 378, s. 192–193.
 8 Ferlay, J. – Soerjomataram, I. – Dikshit, R., et al.: Cancer incidence and mortality worldwide: sources, methods and major patterns in

GLOBOCAN 2012. *Int J Cancer*, 2015, 136, s. E359–E386.
 9 Gridelli, C. – Peters, S. – Spangato, A., et al.: ALK inhibitors in the treatment of advanced NSCLC. *Cancer Treat Rev*, 2014, 40, s. 300–306.
 10 SPC přípravku Xalkori
 11 Novello, S. – Mazières, J. – Oh, I. J., et al.: Alectinib versus chemotherapy in crizotinib-pretreated anaplastic lymphoma kinase

(ALK)-positive non-small-cell lung cancer: results from the phase III ALUR study. *An Oncol*, 2018, 29, s. 1409–1416.
 12 Peters, S. – Camidge, R. – Shaw, A. T., et al.: Alectinib versus crizotinib in in-treated ALK-positive non-small-cell lung cancer. *N Engl J Med*, 2017, 377, s. 829–838, DOI: 10.1056/NEJMoa1704795.
 13 SPC přípravku Alecensa.

Studie PALOMA-3 – celkové přežití pacientek

MUDr. Katarína Petráková, Ph.D. Klinika komplexní onkologické péče MOÚ, Brno

1 Baselga, J. – Campone, M. – Piccart, M., et al.: Everolimus in postmenopausal hormone-receptor-positive advanced breast cancer. *N Engl J Med*, 2012, 366, s. 520–529.
 2 Fry, D. W. – Harvey, P. J. – Keller, P. R., et al.: Specific inhibition of cyclin-dependent kinase 4/6 by PD 0332991 and associated anti-tumor activity in human tumor xenografts. *Mol Cancer Ther*, 2004, 3, s. 1427–1438.
 3 Choi, Y. J. – Anders, L.: Signaling through cyclin D-dependent kinases. *Oncogene*, 2014, 33, s. 1890–1903.
 4 Finn, R. S., et al.: The cyclin-dependent kinase 4/6 inhibitor palbociclib in combination with letrozole versus letrozole alone as first-line treatment of oestrogen receptor-positive, HER2-negative, advanced breast cancer (PALOMA-1/TRIO-18): a randomised phase 2 study. *Lancet Oncol*, 2015, 16, s. 25–35.
 5 Finn, R. S., et al.: Palbociclib and letrozole in advanced breast cancer. *New Eng J Med*, 2016, 375, s. 1925–1936.
 6 Hortobagyi, G. N. – Stemmer, S. M. – Burris, H. A., et al.: Updated results from MONALEESA-2, a phase III trial of first-line ribociclib plus letrozole versus placebo plus letrozole in hormone receptor-positive, HER2-negative advanced breast cancer. *Ann Oncol*, 2018, 29, s. 1541–1547.
 7 Slamon, D. J. – Neven, P. – Chia, S., et al.: Phase III randomized study of ribociclib and fulvestrant in hormone receptor-positive, human epidermal growth factor receptor 2-negative advanced breast cancer: MONALEESA-3. *J Clin Oncol*, 2018, 36, s. 2465–2472.
 8 Cristofanilli, M. – Turner, N. C. – Bondarenko, I., et al.: Fulvestrant

plus palbociclib versus fulvestrant plus placebo for treatment of hormone-receptor-positive, HER2-negative metastatic breast cancer that progressed on previous endocrine therapy (PALOMA-3): final analysis of the multicentre, double-blind, phase 3 randomised controlled trial. *Lancet Oncol*, 2016, 17, s. 425–439.
 9 Turner, N. C. – Slamon, D. J. – Ro, J., et al.: Overall survival with palbociclib and fulvestrant in advanced breast cancer. *N Engl J Med*, 2018, 379, s. 1926–1936.
 10 Seidman, A. D. – Bordeleau, L. – Fehrenbacher, L., et al.: National Cancer Institute Breast Cancer Steering Committee Working Group report on meaningful and appropriate end points for clinical trials in metastatic breast cancer. *J Clin Oncol*, 2018, 36, s. 3259–3268.

Lorlatinib

MUDr. Leona Koubková Pneumologická klinika UK 2. LF a FN Motol, Praha

1 Gainor, J. F. – Dardaei, L. – Yoda S., et al.: Molecular mechanisms of resistance to first- and second-generation ALK inhibitors in ALK-rearranged lung cancer. *Cancer Discov*, 2016, 6, s. 1118–1133.
 2 Choi, Y. L. – Soda, M. – Yamashita, Y., et al.: ALK Lung Cancer Study Group: EML4-ALK mutations in lung cancer that confer resistance to ALK inhibitors. *N Engl J Med*, 2010, 363, s. 1734–1739.
 3 Sasaki, T. – Koivunen, J. – Ogino, A., et al.: A novel ALK secondary mutation and EGFR signaling cause resistance to ALK kinase inhibitors. *Cancer Res*, 2011, 71, s. 6051–6060.
 4 Solomon, B. J. – Besse, B. – Bauer, T. M., et al.: Lorlatinib in patients with ALK-positive non-small-cell lung cancer: results from a global phase 2 study. *Lancet Oncol*, 2018, 19, s. 1654–1667.
 5 Besse, B. – Shaw, A. T. – Solomon, B. J., et al.: Preliminary efficacy and safety of lorlatinib in patients with ROS1-positive non-small cell lung cancer (NSCLC) (poster). Prezentováno na ESMO 2017, 8.–12. 9. 2017, Madrid, Španělsko, abstrakt 1308PD.
 6 NCCN Guidelines Version 3.2019, 01/18/19, dostupné z: www.nccn.org/patients, vyhledáno 7. 3. 2019.

Inhibitory CDK4/6 v léčbě metastatického karcinomu prsu

MUDr. Katarína Petráková, Ph.D. Klinika komplexní onkologické péče MOÚ, Brno

1 Abraham, J. – Coleman, R. – Elias, A., et al.: Use of cyclin-dependent kinase (CDK) 4/6 inhibitors for hormone receptor-positive, human epidermal growth factor receptor 2-negative, metastatic breast cancer: a roundtable discussion by The Breast Cancer Therapy Expert Group (BCTEG). *Breast Cancer Res Treat*, 2018, 171, s. 11–20.
 2 Scott, S. C. – Lee, S. S. – Abraham, J.: Mechanisms of therapeutic CDK4/6 inhibition in breast cancer. *Semin Oncol*, 2017, 44, s. 385–394.
 3 Finn, R. S. – Crown, J. P. – Lang, I., et al.: The cyclin-dependent kinase 4/6 inhibitor palbociclib in combination with letrozole versus letrozole alone as first-line treatment of oestrogen receptor-positive, HER2-negative, advanced breast cancer (PALOMA-1/TRIO-18): a randomised phase 2 study. *Lancet Oncol*, 2015, 16, s. 25–35.
 4 Finn, R. S. – Martin, M. – Rugo, H. S., et al.: Palbociclib and letrozole in advanced breast cancer. *N Engl J Med*, 2016, 375, s. 1925–1936.
 5 Cristofanilli, M. – Turner, N. C. – Bondarenko, I., et al.: Fulvestrant plus palbociclib versus fulvestrant plus placebo for treatment of hormone-receptor-positive, HER2-negative metastatic breast cancer that progressed on previous endocrine therapy (PALOMA-3): final analysis of the multicentre, double-blind, phase 3 randomised controlled trial. *Lancet Oncol*, 2016, 17, s. 425–439.
 6 Finn, R. S. – Crown, J. – Lang, I., et al.: Overall survival results from the randomized phase II study of palbociclib (P) in combination with letrozole (L) vs letrozole alone for frontline treatment of ER+/HER2– advanced breast cancer (PALOMA-1; TRIO-18). *J Clin Oncol*, 2017, 35, suppl. 15, s. 1001–1001.
 7 Turner, N. C. – Slamon, D. J. – Ro, J., et al.: Overall survival with palbociclib and fulvestrant in advanced breast cancer. *N Engl J Med*, 2018, 379, s. 1926–1936.
 8 Hortobagyi, G. N. – Stemmer, S. M. – Burris, H. A., et al.: Ribociclib as first-line therapy for HR-positive, advanced breast cancer. *N Engl J Med*, 2016, 375, s. 1738–1748.
 9 Hortobagyi, G. N. – Stemmer, S. M. – Burris, H. A., et al.: Updated results from MONALEESA-2, a phase III trial of first-line ribociclib plus letrozole versus placebo plus letrozole in hormone receptor-positive, HER2-negative advanced breast cancer. *Ann Oncol*, 2018, 29, s. 1541–1547.
 10 Slamon, D. J. – Neven, P. – Chia, S., et al.: Phase III randomized study of ribociclib and fulvestrant in hormone receptor-positive, human epidermal growth factor receptor 2-negative advanced breast cancer: MONALEESA-3. *J Clin Oncol*, 2018, 36, s. 2465–2472.
 11 Tripathy, D. – Im, S.-A. – Colleoni, M., et al.: Ribociclib plus endocrine therapy for premenopausal women with hormone-receptor-positive, advanced breast cancer (MONALEESA-7): a randomised phase 3 trial. *Lancet Oncol*, 2018, 19, s. 904–915.
 12 Dickler, M. N. – Tolane, S. M. – Rugo, H. S., et al.: MONARCH 1, a phase II study of abemaciclib, a CDK4 and CDK6 inhibitor, as a single agent, in patients with refractory HR+/HER2– metastatic breast cancer. *Clin Cancer Res*, 2017, 23, s. 5218–5224.
 13 Sledge, G. W. – Toi, M. – Neven, P., et al.: MONARCH 2: abemaciclib in combination with fulvestrant in women with HR+/HER2– advanced breast cancer who had progressed while receiving endocrine therapy. *J Clin Oncol*, 2017, 35, s. 2875–2884.
 14 Goetz, M. P. – Toi, M. – Campone, M., et al.: MONARCH 3: abemaciclib as initial therapy for advanced breast cancer. *J Clin Oncol*, 2017, 35, s. 3638–3646.
 15 Seidman, A. D. – Bordeleau, L. – Fehrenbacher, L., et al.: National Cancer Institute Breast Cancer Steering Committee Working Group Report on Meaningful and Appropriate End Points for Clinical Trials in Metastatic Breast Cancer. *J Clin Oncol*, 2018, s. 3259–3268, doi: 10.1200/JCO.18.00242, epub před tiskem.

PARP inhibitory v terapii ovariálního karcinomu

MUDr. Pavel Vlasák | doc. MUDr. Jiří Bouda, Ph.D. | MUDr. Jan Košťun | MUDr. Denis Berezovskiy | MUDr. Jiří Presl, Ph.D.

Gyneologicko-porodnická klinika LF UK a FN Plzeň

1 Registry NC. Cancer Incidence 2016. Health Statistics. Czech republic, Prague 2018.
 2 Cibula, D.: *Onkogynekologie*. Praha, Grada Publishing, 2009.
 3 Vlasák, P. – Košťun, J. – Berezovskiy, D. – Presl, J. – Bouda, J.: Role ultrazvukem navigované biopsie v managementu pánevních tumorů. *Actual Gyn*, 2017, 9, s. 1–4.
 4 Plummer, R.: Perspective on the piperine of drugs being developed with modulation of DNA damage as a target. *Clin Cancer Res*, 2010, 16, s. 4527–4531.
 5 Cancer Genome Atlas Research Network. Integrated genomic and molecular characterization of cervical cancer. *Nature*, 2017, 543.7645, s. 378.
 6 King, M. C. – Marks, J. H. – Mandell, J. B.: New York Breast Cancer Study G. Breast and ovarian cancer risks due to inherited mutations in BRCA1 and BRCA2. *Science*, 2003, 302, s. 643–646.
 7 Cancer Genome Atlas Research Network. Integrated genomic and molecular characterization of cervical cancer. *Nature*, 2017, 543.7645, s. 378.
 8 Chen, S. – Parmigiani, G.: Meta analysis of BRCA1 and BRCA2 penetrance. *J Clin Oncol*, 2007, 25, s. 1329–1333.
 9 Rouleau, M. – Patel, A. – Hendzel, M. J., et al.: PARP inhibition: PARP1 and beyond. *Nat Rev Cancer*, 2010, 10, s. 293–301.
 10 Tan, D. S. – Rothermundt, C. – Thomas, K., et al.: BRCAness syndrome in ovarian cancer: a case control study describing the clinical features and outcome of patients with epithelial ovarian cancer associated with BRCA1 and BRCA2 mutations. *J Clin Oncol*, 2008, 26, s. 5530–5536.
 11 Schultz, N. – Lopez, E. – Saleh Gohari, N. – Helleday, T.: Poly(ADP ribose) polymerase (PARP 1) has a controlling role in homologous recombination. *Nucleic Acids Res*, 2003, 31, s. 4959–4964.
 12 Ledermann, J., et al.: Olaparib maintenance therapy in patients with platinum-sensitive relapsed serous ovarian cancer: a preplanned retrospective analysis of outcomes by BRCA status in a randomised phase 2 trial. *Lancet Oncol*, 2014, 15.8, s. 852–861.
 13 Ledermann, J. – Harter, P. – Gourley, C., et al.: Olaparib maintenance therapy in platinum sensitive relapsed ovarian cancer. *N Engl J Med*, 2012, 366, s. 1382–1392.

Ovariální karcinom je jiná nemoc – linie léčby

prof. MUDr. Michal Zikán, Ph.D. Gynekologicko-porodnická klinika 1. LF UK a Nemocnice Na Bulovce, Praha

- 1 **Modrá kniha České onkologické společnosti ČLS JEP.** Masarykův onkologický ústav, Brno, 2018.
- 2 **Fait, T. – Zikán, M. – Mašata, J.** *Moderní farmakoterapie v gynekologii a porodnictví*. Praha, Maxdorf, 2017.
- 3 **Dostupné z:** <http://www.nccn.org>.
- 4 **Cibula, D. – Petruželka, L., et al.** *Onkogynekologie*. Praha, Grada, 2009.
- 5 **Novotný, J. – Vítek, P. – Kleibl, Z.** *Onkologie v klinické praxi*. Praha, Mladá fronta, 2016.

Novinky v léčbě pokročilého karcinomu ledviny

prof. MUDr. Jindřich Fínek, Ph.D. Onkologická a radioterapeutická klinika FN a LF v Plzni UK, Plzeň

- 1 **Motzer, R. J. – Tannir, N. M. – McDermott, D. F. – Arén Frontera, O., et al.** Nivolumab plus ipilimumab versus sunitinib in advanced renal-cell carcinoma. *N Engl J Med*, 2018, 378, s. 1277–1290.
- 2 **Escudier, B. – Sharma, P. – McDermott, D. F.** CheckMate 025 randomized phase 3 study: outcomes by key baseline factors and prior therapy for nivolumab versus everolimus in advanced renal cell carcinoma. *Eur Urol*, 2017, 72, s. 962–971.
- 3 **Kenilworth, N. J.** Merck's KEYTRUDA® (pembrolizumab) in combination with Pfizer's Inlyta® (axitinib) significantly improved overall survival (OS) and progression-free survival (PFS) as first-line therapy for advanced or metastatic renal cell carcinoma. Dostupné z: <https://investors.merck.com>, vyhledáno 15. 1. 2019.

X4P-001-IO a axitinib v léčbě generalizovaného renálního karcinomu

MUDr. Ivo Kocák, Ph.D. Klinika komplexní onkologické péče, MOÚ, Brno

- 1 **Atkins, M. – Joseph, R. – Ho, T., et al.** A phase 1 dose-finding study of X4P-001 (an oral CXCR4 inhibitor) and axitinib in patients with advanced renal cell carcinoma (RCC). AACR – Abstract B201. NCI-EORTC International Conference: Molecular Targets and Cancer Therapeutics; 26–30. 10. 2017, Philadelphia, PA.
- 2 **Dostupné z:** https://www.ema.europa.eu/en/documents/product-information/inlyta-epar-product-information_cs.pdf, vyhledáno 13. 3. 2019.
- 3 **Panka, D. J. – Arbeit, R. D. – Mier, J. W.** Regulation of MDSC trafficking and function in RCC by CXCR4 in the presence of a VEGFR antagonist. Cancer. Abstrakt 4155, research 76, suppl. 14, s. 4155–4155.
- 4 **Dostupné z:** <https://clinicaltrials.gov/ct2/show/NCT02667886>, vyhledáno 13. 3. 2019.

Imuno-onkologická léčba inhibitory kontrolních bodů

doc. MUDr. Tomáš Büchler, Ph.D. | MUDr. Aneta Rozsypalová Onkologická klinika 1. LF UK a Thomayerovy nemocnice, Praha

- 1 **Wolchok, J. D. – Saenger, Y.** The mechanism of anti-CTLA-4 activity and the negative regulation of T-cell activation. *Oncologist*, 2008, 13, suppl. 4, s. 2–9.
- 2 **Postow, M. A. – Callahan, M. K. – Wolchok, J. D.** Immune checkpoint blockade in cancer therapy. *J Clin Oncol*, 2015, 33, s. 1974–1982.
- 3 **Ribas, A. – Wolchok, J. D.** Cancer immunotherapy using checkpoint blockade. *Science*, 2018, 359, s. 1350–1355.
- 4 **Wei, S. C. – Duffy, C. R. – Allison, J. P.** Fundamental mechanisms of immune checkpoint blockade therapy. *Cancer Discov*, 2018, 8, s. 1069–1086.
- 5 **Latchman, Y. E. – Liang, S. C. – Wu, Y., et al.** PD-L1-deficient mice show that PD-L1 on T cells, antigen-presenting cells, and host tissues negatively regulates T cells. *Proc Natl Acad Sci U S A*, 2004, 101, s. 10691–10696.
- 6 **Vanneman, M. – Dranoff, G.** Combining immunotherapy and targeted therapies in cancer treatment. *Nat Rev Cancer*, 2012, 12, s. 237–251.
- 7 **Callahan, M. K. – Postow, M. A. – Wolchok, J. D.** CTLA-4 and PD-1 pathway blockade: combinations in the clinic. *Front Oncol*, 2015, 4, s. 385.
- 8 **Stewart, G. D. – De Santis, M. – Escudier, B., et al.** Immunotherapy for renal cancer: sequencing and combinations. *Eur Urol Focus*, 2016, 2, s. 582–588.
- 9 **Shrimali, R. K. – Yu, Z. – Theoret, M. R., et al.** Antiangiogenic agents can increase lymphocyte infiltration into tumor and enhance the effectiveness of adoptive immunotherapy of cancer. *Cancer Res*, 2010, 70, s. 6171–6180.
- 10 **Bellmunt, J. – de Wit, R. – Vaughn, D. J., et al.** Pembrolizumab as second-line therapy for advanced urothelial carcinoma. *N Engl J Med*, 2017, 376, s. 1015–1026.
- 11 **Zitvogel, L. – Ma, Y. – Raouf, D., et al.** The microbiome in cancer immunotherapy: Diagnostic tools and therapeutic strategies. *Science*, 2018, 359, s. 1366–1370.
- 12 **Johnson, C. H. – Spilker, M. E. – Goetz, L., et al.** Metabolite and microbiome interplay in cancer immunotherapy. *Cancer Res*, 2016, 76, s. 6146–6152.
- 13 **Maier, L. – Pruteanu, M. – Kuhn, M., et al.** Extensive impact of non-antibiotic drugs on human gut bacteria. *Nature*, 2018, 555, s. 623–628.
- 14 **Routy, B. – Le Chatelier, E. – Derosa, L., et al.** Gut microbiome influences efficacy of PD-1-based immunotherapy against epithelial tumors. *Science*, 2018, 359, s. 91–97.
- 15 **Gopalakrishnan, V. – Spencer, C. N. – Nezi, L., et al.** Gut microbiome modulates response to anti-PD-1 immunotherapy in melanoma patients. *Science*, 2018, 359, s. 97–103.
- 16 **Matson, V. – Fessler, J. – Bao, R., et al.** The commensal microbiome is associated with anti-PD-1 efficacy in metastatic melanoma patients. *Science*, 2018, 359, s. 104–108.
- 17 **Lakomy, R. – Poprach, A.** Nežádoucí účinky moderní imunoterapie a jejich řešení v klinické praxi. *Klin Onkol*, 2015, 28, suppl. 4, 45103–114.

Současnost a budoucnost biologické léčby v terapii migrény

MUDr. David Doležil, PhD, MBA Headache centrum Praha, DADO MEDICAL, s. r. o., Praha

- 1 **Silberstein, S. – Lenz, R. – Xu, C.** Therapeutic monoclonal antibodies: What headache specialist need to know. *Headache*, 2015, 00, s. 1–13.
- 2 **Khan, S. – Olesen, A. – Ashina, M.** CGRP: a target for preventive therapy in migraine and cluster headache: Systematic review of clinical data. *Cephalalgia*, 2017, 1, s. 1–16.
- 3 **Edvinsson, L.** The journey to establish CGRP as a migraine target: a retrospective view. *Headache*, 2015, 00, s. 1–5.
- 4 **Dodick, D. W.** CGRP ligand and receptor monoclonal antibodies for migraine prevention: Evidence review and clinical implication. *Cephalalgia*, 2018, 00, s. 1–14.
- 5 **Edvinsson, L. – Warfinge, K.** Recognizing the role of CGRP and CGRP receptors in the migraine and its treatment. *Cephalalgia*, 2017, 00, s. 1–8.
- 6 **Bigal, M. E. – Walter, S. – Rapoport, A. M.** Therapeutic antibodies against CGRP or its receptor. *Br J Clin Pharmacol*, 2015, 79, s. 886–895.
- 7 **Sun, H. – Dodick, D. W. – Silberstein, S. D., et al.** Safety and efficacy of AMG 334 for prevention of episodic migraine: A randomised, double-blind, placebo-controlled, phase 2 trial. *Lancet Neurol*, 2016, 15, s. 382–390.
- 8 **Tepper, S. – Ashina, M. – Reuter, U., et al.** Safety and efficacy of erenumab for preventive treatment of chronic migraine: A randomised, double-blind, placebo-controlled phase 2 trial. *Lancet Neurol*, 2017, 16, s. 425–434.
- 9 **Dodick, D. W. – Ashina, M. – Brandes, J. L., et al.** ARISE: a phase 3 randomised trial of erenumab for episodic migraine. *Cephalalgia*, 2018, 38, s. 1026–1037.
- 10 **Goadsby, P. J. – Reuter, J. – Hallstrom, Y., et al.** A controlled trial of erenumab for episodic migraine. *N Engl J Med*, 2017, 377, s. 2123–2132.
- 11 **Ashina, M. – Dodick, D. W. – Goadsby, P. J., et al.** Erenumab (AMG 334) in episodic migraine: Interim analysis of ongoing open-label study. *Neurology*, 2017, 89, s. 1237–1243.
- 12 **Ashina, M. – Tepper, S. – Brandes, J. L., et al.** Efficacy of erenumab (a fully human Mab targeting the CGRP receptor) in chronic migraine patients with prior treatment failure: A subgroup analysis of the Phase 2, randomized, double-blind, placebo-controlled study. *Cephalalgia*, 2017, 37, s. 326–328.
- 13 **Dodick, D. W. – Goadsby, P. J. – Silberstein, S. D., et al.** Safety and efficacy of ALD403, an antibody to calcitonin gene-related peptide, for the prevention of frequent episodic migraine: A randomised, double-blind, placebo-controlled, exploratory phase 2 trial. *Lancet Neurol*, 2014, 13, s. 1100–1107.
- 14 **Smith, J. – Dodick, D. W. – Goadsby, P. J., et al.** Randomized, double-blind, placebo-controlled trial of ALD403 (eptinezumab), an anti-CGRP monoclonal antibody for the prevention of chronic migraine. *Headache*, 2017, 57, s. 130.
- 15 **Saper, J. – Lipton, R. B. – Kudrow, D., et al.** A Phase 3, randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of eptinezumab in frequent episodic migraine prevention: Primary results of the PROMISE 1 (Prevention Of Migraine via Intravenous eptinezumab Safety and Efficacy 1) trial. *Cephalalgia*, 2017, 37, s. 337.
- 16 **Bigal, M. E. – Dodick, D. W. – Krymchantowski, A. V., et al.** TEV-48125 for the preventive treatment of chronic migraine: Efficacy at early time points. *Neurology*, 2016, 87, s. 41–48.
- 17 **Yeung, P. P. – Aycardi, E. – Bigal, M. E., et al.** Early onset of action with fremanezumab versus placebo for the preventive treatment of chronic migraine. *Neurology*, 2018, 90, s. P4.102.
- 18 **Bigal, M. E. – Dodick, D. W. – Rapoport, A. M., et al.** Safety, tolerability and efficacy of TEV-48125 for preventive treatment of high-frequency episodic migraine: A multicentre, randomised, double-blind, placebo-controlled, phase 2b study. *Lancet Neurol*, 2015, 14, s. 1081–1090.
- 19 **Silberstein, S. D. – Dodick, D. W. – Bigal, M. E., et al.** Fremanezumab for the preventive treatment of chronic migraine. *N Engl J Med*, 2017, 377, s. 2113–2122.
- 20 **Dodick, D. W. – Silberstein, S. D. – Bigal, M. E., et al.** Effect of fremanezumab compared with placebo on prevention of episodic migraine: A randomized clinical trial. *JAMA*, 2018, 319, s. 1999–2008.
- 21 **Cohen, J. M. – Dodick, D. W. – Yang, R., et al.** Fremanezumab as add-on treatment for patients treated with other migraine preventive medicines. *Headache*, 2017, 57, s. 1375–1384.
- 22 **Dodick, D. W. – Goadsby, P. J. – Spierings, E. L., et al.** Safety and efficacy of LY2951742, a monoclonal antibody to calcitonin gene-related peptide, for the prevention of migraine: A phase 2, randomised, double-blind, placebo-controlled study. *Lancet Neurol*, 2014, 13, s. 885–892.
- 23 **Skljarevski, V. – Oakes, T. M. – Zhang, Q., et al.** Effect of different doses of galcanezumab vs placebo for episodic migraine prevention: A randomized clinical trial. *JAMA Neurol*, 2018, 75, s. 187–193.
- 24 **Skljarevski, V. – Stauffer, V. L. – Zhang, Q., et al.** Phase 3 studies (EVOLVE-1 & EVOLVE-2) of galcanezumab in episodic migraine: Results

of 6-month treatment phase. *Cephalalgia*, 2017, 37, s. 339–340.
25 **Detke, H. C. – Wang, S. – Skljarevski, V., et al.**: A Phase 3 placebo-controlled study of galcanezumab in patients with chronic migraine:

Results from the 3-month double-blind treatment phase of the REGAIN study. *Cephalalgia*, 2017, 37, s. 338.

26 **Zhang, Q. – Ruff, D. D. – Pearlman, E. M., et al.**: Efficacy of

galcanezumab in patients who failed to respond to preventives previously: Results from EVOLVE-1, EVOLVE-2 and REGAIN studies (S20.004). *Neurology*, 2018, 90, s. S20.004.

Novinky v léčbě mnohočetného myelomu

MUDr. Martin Štork | prof. MUDr. Zdeněk Adam, CSc. | doc. MUDr. Marta Krejčí, Ph.D. | MUDr. Viera Sandecká | doc. MUDr. Luděk Pour, Ph.D. Interní hematologická a onkologická klinika, LF MU a FN Brno

- 1 **Maluskova, D. – Svobodova, I. – Kucerova, M., et al.**: Epidemiology of multiple myeloma in the Czech Republic. *Klin Onkol*, 2017, 30, s. 35–42.
- 2 **Kumar, S. – Rajkumar, S. – Dispenzieri, A., et al.**: Improved survival in multiple myeloma and the impact of novel therapies. *Blood*, 2008, 111, s. 2516–2520.
- 3 **Paquin, A. R. – Kumar, S. K. – Buadi, F. K., et al.**: Overall survival of transplanteligible patients with newly diagnosed multiple myeloma: comparative effectiveness analysis of modern induction regimens on outcome. *Blood Cancer J*, 2018, 8, s. 125.
- 4 **Kyle, R. A.**: Five decades of therapy for multiple myeloma: a paradigm for therapeutic models. *Leukemia*, 2005, 19, s. 910–912.
- 5 **Kumar, S. K. – Dispenzieri, A. – Lacy, M. Q., et al.**: Continued improvement in survival in multiple myeloma: changes in early mortality and outcomes in older patients. *Leukemia*, 2014, 28, s. 1122–1128.
- 6 **Moreau, P. – Zamangli, E.**: MRD in multiple myeloma: more questions than answers? *Blood Cancer J*, 2017, 7, s. 639.
- 7 **Zweegman, S. – Engelhardt, M. – Larocca, A.**: Elderly patients with multiple myeloma: towards a frailty approach? *Curr Opin Oncol*, 2017, 29, s. 315–321.
- 8 **Gay, F. – Larocca, A.**: Special problems in the management of elderly patients with multiple myeloma. *Eur J Intern Med*, 2018, 58, s. 64–69.
- 9 **Sonneveld, P. – Avet-Loiseau, H. – Lonial, S., et al.**: Treatment of multiple myeloma with high-risk cytogenetics: a consensus of the International Myeloma Working Group. *Blood*, 2016, 127, s. 2955–2962.
- 10 **Chng, W. J. – Dispenzieri, A. – Chim, C. S., et al.**: IMWG consensus on risk stratification in multiple myeloma. *Leukemia*, 2014, 28, s. 269–277.
- 11 **Sonneveld, P. – Goldschmidt, H., et al.**: Bortezomib-based versus non-bortezomib-based induction treatment before autologous stem-cell transplantation in patients with previously untreated multiple myeloma: a meta-analysis of phase III randomized, controlled trials. *J Clin Oncol*, 2013, 31, s. 3279–3287.
- 12 **Benboubker, L. – Dimopoulos, M. A., et al.**: Lenalidomide and dexamethasone in transplant-ineligible patients with myeloma. *N Engl J Med*, 2014, 371, s. 906–917.
- 13 **Weisel, K. – Doyen, C. – Dimopoulos, M., et al.**: A systematic literature review and network meta-analysis of treatments for patients with untreated multiple myeloma not eligible for stem cell transplantation. *Leuk Lymphoma*, 2017, 58, s. 153–161.
- 14 **Larocca, A. – Salvini, M. – De Paoli, L., et al.**: Efficacy and feasibility of dose/schedule-adjusted Rd-R vs. continuous Rd in elderly and intermediate-fit newly diagnosed multiple myeloma (NDMM) patients: RV-MM-PI-0752 Phase III Randomized Study. Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper111796.html>, vyhledáno 18. 12. 2018.
- 15 **Durie, B. G. – Hoering, A. – Abidi, M. H., et al.**: Bortezomib with lenalidomide and dexamethasone versus lenalidomide and dexamethasone alone in patients with newly diagnosed multiple myeloma without intent for immediate autologous stem-cell transplant (SWOG S0777): a randomised, open-label, phase 3 trial. *Lancet*, 2017, 389, s. 519–527.
- 16 **Hájek, R. – Masszi, T. – Petrucci, M. T., et al.**: A randomized phase III study of carfilzomib vs low-dose corticosteroids with optional cyclophosphamide in relapsed and refractory multiple myeloma (FOCUS). *Leukemia*, 2017, 31, s. 107–114.
- 17 **Dimopoulos, M. A. – Moreau, P. – Palumbo, A., et al.**: Carfilzomib and dexamethasone versus bortezomib and dexamethasone for patients with relapsed or refractory multiple myeloma (ENDEAVOR): a randomised, phase 3, open-label, multicentre study. *Lancet Oncol*, 2016, 17, s. 27–38.
- 18 **Stewart, A. K. – Rajkumar, S. V. – Dimopoulos, M. A., et al.**: Carfilzomib, lenalidomide, and dexamethasone for relapsed multiple myeloma. *N Engl J Med*, 2015, 372, s. 142–152.
- 19 **Moreau, P. – Mateos, M. V. – Berenson, J. R., et al.**: Once weekly versus twice weekly carfilzomib dosing in patients with relapsed and refractory multiple myeloma (A.R.R.O.W.): interim analysis results of a randomised, phase 3 study. *Lancet Oncol*, 2018, 19, s. 953–964.
- 20 **Facon, T. – Hoon Lee, J. – Moreau, P., et al.**: Phase 3 study (CLARION) of carfilzomib, melphalan, prednisone (KMP) vs bortezomib, melphalan, prednisone (VMP) in newly diagnosed multiple myeloma (NDMM). *Clin Lymph Myel Leuk*, 2018, 17, s. 26–27.
- 21 **Gay, F. – Cerrato, C. H. – Scalabrini, D. R., et al.**: Carfilzomib-lenalidomide-dexamethasone (KRd) induction-autologous transplant (ASCT)-Krd consolidation vs Krd 12 cycles vs carfilzomib-cyclophosphamide-dexamethasone (KcD) induction-ASCT-KcD consolidation: analysis of the randomized forte trial in newly diagnosed multiple myeloma (NDMM). Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper112093.html>, vyhledáno 19. 12. 2018.
- 22 **Moreau, P. – Masszi, T. – Grzasko, N., et al.**: Oral ixazomib, lenalidomide, and dexamethasone for multiple myeloma. *N Engl J Med*, 2016, 374, s. 1621–1634.
- 23 **Dimopoulos, M. A. – Gay, F. – Schjesvold, F. H., et al.**: Maintenance therapy with the oral proteasome inhibitor (PI) ixazomib significantly prolongs progression-free survival (PFS) following autologous stem cell transplantation (ASCT) in patients with newly diagnosed multiple myeloma (NDMM): phase 3 Tourmaline-MM3 trial. Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper112079.html>, vyhledáno 19. 12. 2018.
- 24 **Millennium Pharmaceuticals**: IXAZOMIB plus lenalidomide and dexamethasone versus placebo plus lenalidomide and dexamethasone in adult patients with newly diagnosed multiple myeloma. Dostupné z: <https://www.clinicaltrials.gov/ct2/show/NCT01850524> NLM identifier NCT01850524, vyhledáno 19. 12. 2018.
- 25 **Millennium Pharmaceuticals**: A study of oral ixazomib maintenance therapy in patients with newly diagnosed multiple myeloma not treated with stem cell transplantation. Dostupné z: <https://clinicaltrials.gov/ct2/show/NCT02312258> NLM identifier NCT02312258, vyhledáno 19. 12. 2018.
- 26 **Lu, G. – Middleton, R. E. – Sun, H., et al.**: The myeloma drug lenalidomide promotes the cereblon-dependent destruction of Ikaros proteins. *Science*, 2014, 343, s. 305–309.
- 27 **San Miguel, J. – Weisel, K. – Moreau, P., et al.**: Pomalidomide plus low-dose dexamethasone versus high-dose dexamethasone alone for patients with relapsed and refractory multiple myeloma (MM-003): a randomised, open-label, phase 3 trial. *Lancet Oncol*, 2013, 14, s. 1055–1066.
- 28 **Dimopoulos, M. A. – Weisel, K. – Moreau, P., et al.**: Pomalidomide + bortezomib + low-dose dexamethasone vs bortezomib + low-dose dexamethasone as second-line treatment in patients with lenalidomide-pretreated multiple myeloma: a subgroup analysis of the phase 3 Optimism trial. Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper111869.html>, vyhledáno 19. 12. 2018.
- 29 **van de Donk, N. W. – Janmaat, M. L., et al.**: Monoclonal antibodies targeting CD38 in hematological malignancies and beyond. *Immunol Rev*, 2016, 270, s. 95–112.
- 30 **Lonial, S. – Weiss, B. M., et al.**: Daratumumab monotherapy in patients with treatment-refractory multiple myeloma (SIRIUS): an open-label, randomised, phase 2 trial. *Lancet*, 2016, 387, s. 1551–1560.
- 31 **Mateos, M. V. – Estell, J. – Barreto, W., et al.**: Efficacy of daratumumab, bortezomib, and dexamethasone versus bortezomib and dexamethasone in relapsed or refractory multiple myeloma based on prior lines of therapy: updated analysis of Castor. *Blood*, 2016, 128, s. 1150.
- 32 **Dimopoulos, M. A. – Oriol, A. – Nahi, H., et al.**: Daratumumab, lenalidomide, and dexamethasone for multiple myeloma. *N Engl J Med*, 2016, 375, s. 1319–1331.
- 33 **Bahlis, N. – Dimopoulos, M. A. – White, D. J., et al.**: Three-year follow up of the phase 3 Pollux study of daratumumab plus lenalidomide and dexamethasone (D-Rd) versus lenalidomide and dexamethasone (Rd) alone in relapsed or refractory multiple myeloma (RRMM). Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper112697.html>, vyhledáno 19. 12. 2018.
- 34 **Facon, T. – Kumar, S. K. – Plesner, T., et al.**: Phase 3 randomized study of daratumumab plus lenalidomide and dexamethasone (D-Rd) versus lenalidomide and dexamethasone (Rd) in patients with newly diagnosed multiple myeloma (NDMM) ineligible for transplant (MAIA). Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper120737.html>, vyhledáno 19. 12. 2018.
- 35 **Facon, T. – Kumar, S. K. – Plesner, T., et al.**: Phase 3 randomized study of daratumumab plus lenalidomide and dexamethasone (D-Rd) versus lenalidomide and dexamethasone (Rd) in patients with newly diagnosed multiple myeloma (NDMM) ineligible for transplant (MAIA). Dostupné z: <https://ash.confex.com/ash/2018/webprogram/Paper120737.html>, vyhledáno 19. 12. 2018.
- 36 **Collins, S. M. – Courtney, E. B. – Swartzel, G. D., et al.**: Elotuzumab directly enhances NK cell cytotoxicity against myeloma via CS1 ligation: evidence for augmented NK cell function complementing ADCC. *Cancer Immunol Immunother*, 2013, 62, s. 1841–1849.
- 37 **Lonial, S. – Dimopoulos, M. – Palumbo, A., et al.**: Elotuzumab therapy for relapsed or refractory multiple myeloma. *N Engl J Med*, 2015, 373, s. 621–631.
- 38 **Palumbo, A. – Offidani, M. – Pégourie, B., et al.**: Elotuzumab plus bortezomib and dexamethasone versus bortezomib and dexamethasone in patients with relapsed/refractory multiple myeloma: 2-year follow-up. *Blood*, 2015, 126, s. 510.
- 39 **Libby, E. N. – Becker, P. S. – Burwick, N., et al.**: Panobinostat: a review of trial results and future prospects in multiple myeloma. *Expert Rev Hematol*, 2015, 8, s. 9–18.
- 40 **San-Miguel, J. F. – Vánia, T. M. – Sung-Soo, Y., et al.**: Panobinostat plus bortezomib and dexamethasone versus placebo plus bortezomib and dexamethasone in patients with relapsed and refractory multiple myeloma: a multicentre, randomised, double-blind phase 3 trial. *Lancet Oncology*, 2014, 15, s. 1195–1206.

Novinky v léčbě chronické lymfocytární leukemie

MUDr. Martin Šimkovič, Ph.D. IV. interní hematologická klinika, FN a LF UK v Hradci Králové

- 1 **Byrd, J. C., et al.**: Ibrutinib versus ofatumumab in previously treated chronic lymphoid leukemia. *N Engl J Med*, 2014, 371, s. 213–223.
- 2 **Brown, J. R., et al.**: Extended follow-up and impact of high-risk prognostic factors from the phase 3 RESONATE study in patients with previously treated CLL/SLL. *Leukemia*, 2018, 32, s. 83–91.
- 3 **O'Brien, S., et al.**: Ibrutinib for patients with relapsed or refractory chronic lymphocytic leukaemia with 17p deletion (RESONATE-17): a phase 2, open-label, multicentre study. *Lancet Oncol*, 2016, 17, s. 1409–1418.
- 4 **Chanan-Khan, A., et al.**: Ibrutinib combined with bendamustine and rituximab compared with placebo, bendamustine, and rituximab for previously treated chronic lymphocytic leukaemia or small lymphocytic lymphoma (HELIOS): a randomised, double-blind, phase 3 study. *Lancet Oncol*, 2016, 17, s. 200–211.
- 5 **Burger, J. A., et al.**: Ibrutinib as initial therapy for patients with chronic lymphocytic leukemia. *N Engl J Med*, 2015, 373, s. 2425–2437.
- 6 **Moreno, C., et al.**: Ibrutinib plus obinutuzumab versus chlorambucil plus obinutuzumab in first-line treatment of chronic lymphocytic leukaemia (ILLUMINATE): a multicentre, randomised, open-label, phase 3 trial. *Lancet Oncol*, 2019, 20, s. 43–56.
- 7 **Shanafelt, T. D., et al.**: A randomized phase III study of ibrutinib (PCI-32765)-based therapy vs. standard fludarabine, cyclophosphamide, and rituximab (FCR) chemoimmunotherapy in untreated younger patients with chronic lymphocytic leukemia (CLL): a trial of the ECOG-ACRIN Cancer Research Group (E1912). *Blood*, 2018, 132, suppl. 1, s. LBA-4-LBA-4.
- 8 **Woyach, J. A., et al.**: Ibrutinib regimens versus chemoimmunotherapy in older patients with untreated CLL. *New Eng J Med*, 2018, 379, s. 2517–2528.
- 9 **Stiglbauer, S., et al.**: Venetoclax for patients with chronic lymphocytic leukemia with 17p deletion: Results from the full population of a phase II pivotal trial. *J Clin Oncol*, 2018, 36, s. 1973–1980.
- 10 **Seymour, J. F., et al.**: Venetoclax plus rituximab in relapsed or refractory chronic lymphocytic leukaemia: a phase 1b study. *Lancet Oncol*, 2017, 18, s. 230–240.
- 11 **Seymour, J. F., et al.**: Venetoclax-rituximab in relapsed or refractory chronic lymphocytic leukemia. *N Engl J Med*, 2018, 378, s. 1107–1120.
- 12 **Kater, A. P. – Seymour, J. F. – Hillmen, P., et al.**: Fixed duration of venetoclax-rituximab in relapsed/refractory chronic lymphocytic leukemia eradicates minimal residual disease and prolongs survival: post-treatment follow-up of the MURANO phase III study. *J Clin Oncol*, JCO.18.01580, 2018.

Roztroušená skleróza u dětí a adolescentů a nové terapeutické možnosti

doc. MUDr. Radomír Taláb, CSc. Neurologická klinika LF UK a FN Plzeň

MUDr. Marika Talábová Neurologická klinika LF UK a FN Hradec Králové

- Hanefeld, F. A. – Christen, H. J. – Kruse, B. – Bauer, H. J.: Childhood and juvenile multiple sclerosis. In: Bauer, H. J. – Hanefeld, F., eds.: *Multiple sclerosis. Its impact from childhood to old age*. Londýn, WB Saunders, 1993, s. 14–52.
- Menkes, J. H. – Sarnat, H. B. – Maria, B. L.: *Child neurology*. Lippincott Williams&Wilkins, 2006, s. 1186
- Krupp, L. B. – Tardieu, M. – Amato, M. P., et al.; International Pediatric Multiple Sclerosis Study Group: International Pediatric Multiple Sclerosis Study Group criteria for pediatric multiple sclerosis and immune-mediated central nervous system demyelinating disorders: revisions to the 2007 definitions. *Mult Scler*, 2013, 19, s. 1261–1267.
- Yeshokumar, A. K. – Narula, S. – Banwell, B.: Pediatric multiple sclerosis. *Curr Opin*, 2017, 30, s. 216–220.
- Taláb, R. – Talábová, M.: Roztroušená skleróza u pacientů v adolescentním věku. *Neurologie pro praxi*, 2013, 14, s. 144–149.
- Confavreux, C. – Suissa, S. – Saddinger, P. – Bourdes, V. – Vukusic, S.: Vaccines in Multiple Sclerosis Study Group: Vaccinations and the risk of relapse in multiple sclerosis. *N Engl J Med*, 2001, 344, s. 319–26.
- Williamson, E. M. L. – Chahin, S. – Berger, J. R.: Vaccines in multiple sclerosis. *Curr Neurol Neurosci Rep*, 2016, 16, s. 36.
- Mailand, M. T. – Frederiksen, J. L.: Vaccines and multiple sclerosis: a systematic review. *J Neurol*, dostupné z: <https://doi.org/10.1007/s00415-016-8263-4>, vyhledáno 11. 3. 2019.
- Chitnis, T. – Glanz, B. – Jaff, N. S. – Healy, B.: Demographics of pediatric – onset multiple sclerosis in an MS center population from the Northeastern United States. *Multiple Sclerosis Houndmills Basingstoke England*, 2009, 15, s. 627–631.
- Dyment, D. A. – Ebers, G. C. – Sadovnick, A. D.: Genetics of multiple sclerosis. *Lancet Neurol*, 2004, 3, s. 104–110.
- Masterman, T. – Ligers, A. – Olsson, T., et al.: HLA-DR15 is associated with early age at onset in multiple sclerosis. *Ann Neurol*, 2000, 48, s. 211–219.
- Banwel, B. – Ghezzi, A. – Bar-Or, A. – Mikaeloff, Y. – Tardieu, M.: Multiple sclerosis in children: clinical diagnosis, therapeutic strategies, and future directions. *Lancet Neurol*, 2007, 6, s. 887–902.
- Forrester, M. B. – Coleman, L. – Kornberg, A. J.: Multiple sclerosis in childhood: clinical and radiological features. *Child Neurol*, 2009, 24, s. 56–62.
- Polman, C. H. – Reingold, S. C. – Banwell, B., et al.: Diagnostic Criteria for Multiple Sclerosis: 2010 Revisions to the McDonald Criteria. *Ann Neurol*, 2011, 69, s. 292–302.
- Ghezzi, A. – Amato, M. P. – Makhani, N., et al.: Pediatric multiple sclerosis: Conventional first-line treatment and general management. *Neurology*, 2016, 87, s. 97–102.
- Ghezzi, A. – Amato, M. P. – Makhani, N., et al.: Pediatric multiple sclerosis: Conventional first-line treatment and general management. *Neurology*, 2016, 87, s. 97–102.
- Yeh, E. A. – Waubant, E. – Krupp, L. B., et al.; National Network of Pediatric MS Centers of Excellence: Multiple sclerosis therapies in pediatric patients with refractory multiple sclerosis. *Arch Neurol*, 2011, 68, s. 437–444.
- Narula, S. – Hopkins, S. E. – Banwell, B.: Treatment of Pediatric Multiple Sclerosis. *Curr Treat Options Neurol*, 2015, 17, s. 10, DOI 10.1007/s11940-014-0336-z.
- Chitnis, T. – Arnold, D. L. – Banwell, B., et al.; PARADIGMS Study Group: Trial of fingolimod versus interferon beta-1a in pediatric multiple sclerosis. *N Engl J Med*, 2011, 379, s. 1017–1027.

Indukční terapie a roztroušená skleróza

doc. MUDr. Martin Vališ, Ph.D. | MUDr. Zbyšek Pavelek, Ph.D. Neurologická klinika LF a FN Hradec Králové

- Goodin, D. S. – Bates, D.: Treatment of early multiple sclerosis: the value of treatment initiation after a first clinical episode. *Mult Scler*, 2009, 15, s. 1175–1182.
- Lu, G. – Beadnall, H. N. – Barton, J., et al.: The evolution of „No Evidence of Disease Activity“ in multiple sclerosis. *Mult Scler Relat Disord*, 2018, 20, s. 231–238.
- Parks, N. E. – Flanagan, E. P. – Lucchinetti, C. F., et al.: NEDA treatment target? No evident disease activity as an actionable outcome in practice. *J Neurol Sci*, 2017, 383, s. 31–34.
- Cree, B. A. C. – Kappos, L. – Freedman, M. S., et al.: Long-term effects of fingolimod on NEDA by year of treatment. Prezentováno na 31stECTRIMS Annual Congress, 7. 10. 2015, Barcelona, Španělsko. Poster Session 1; P627.
- Giovannoni, G. – Tomic, D. – Bright, J. R., et al.: „No evident disease activity“: The use of combined assessments in the management of patients with multiple sclerosis. *Mult Scler*, 2017, 23, s. 1179–1187.
- Shirani, A. – Zhao, Y. – Karim, M. E., et al.: Association between use of interferon beta and progression of disability in patients with relapsing-remitting multiple sclerosis. *JAMA*, 2012, 308, s. 247–256.
- Miller, J. R.: The importance of early diagnosis of multiplesclerosis. *J Manag Care Pharm*, 2004, 10, suppl. B, s. 54–511.
- Hartung, H. P. – Gossette, R. – König, N., et al.: Mitoxantrone in Multiple Sclerosis Study Group (MIMS). Mitoxantrone in progressive multiple sclerosis: a placebo-controlled, double-blind, randomised, multicentre trial. *Lancet*, 2002, 360, s. 2018–2025.
- Giovannoni, G. – Comi, G. – Cook, S., et al.: Clinical efficacy of cladribine tablets in patients with relapsing-remitting multiple sclerosis (RRMS): final results from the 120-week phase III extension trial to the CLARITY study. *AAN*, 15.–21. 4. 2016, poster P3.028.
- Cohen, J. A. – Coles, A. J. – Arnold, D. L., et al.: Alemtuzumab versus interferon beta 1a as first-line treatment for patients with relapsing-remitting multiple sclerosis: a randomised controlled phase 3 trial. *Lancet*, 2012, *Neurology*, 2014, 82, suppl. P2.199, 380, s. 1819–1828.
- Polman, C. H. – O'Connor, P. W. – Havrdova, E., et al.: A randomized, placebo-controlled trial of natalizumab for relapsing multiple sclerosis. *N Engl J Med*, 2006, 354, s. 899–910.
- Gorelik, L. – Lerner, M. – Bixler, S., et al.: Anti-JC virus antibodies: implications for PML risk stratification. *Ann Neurol*, 2010, 68, s. 295–303.
- Outteryck, O. – Zéphir, H. – Salleron, J., et al.: JC-virus seroconversion in multiple sclerosis patients receiving natalizumab. *Mult Scler*, 2014, 20, s. 822–829.
- Hauser, S. L. – Bar Or, A. – Comi, G., et al.: Ocrelizumab versus interferon beta 1a in relapsing multiple sclerosis. *N Engl J Med*, 2017, 376, s. 221–220.
- Cohen, J. A. – Barkhof, F. – Comi, G., et al.: Oral fingolimod or intramuscular interferon for relapsing multiple sclerosis. *N Engl J Med*, 2010, 362, s. 402–415.

Novinky v léčbě roztroušené sklerózy

MUDr. Radek Ampapa Centrum pro léčbu demyelinizačních onemocnění, Neurologické oddělení Nemocnice Jihlava

- Noseworthy, J. H. – Lucchinetti, C. – Rodriguez, M., et al.: Multiple sclerosis. *N Engl J Med*, 2000, 343, s. 938–952.
- Browne, P. – Chandraratna, D. – Angood, C., et al.: Atlas of Multiple Sclerosis 2013: A growing global problem with widespread inequity. *Neurology*, 2014, 83, s. 1022–1024.
- Ingwersen, J. – Aktas, O. – Hartung, H. P.: Advances in and algorithms for the treatment of relapsing-remitting multiple sclerosis. *Neurotherapeutics*, 2016, 13, s. 47–57.
- Edan, G. – Le Page, E.: Induction therapy for patients with multiple sclerosis: Why? When? How? *CNS Drugs*, 2013, 27, s. 403–409.
- Hauser, S. L. – Bar-Or, A. – Comi, G., et al.; for the OPERA I and OPERA II: Clinical Investigators. Ocrelizumab versus interferon beta-1a in relapsing multiple sclerosis. *N Engl J Med*, 2017, 376, s. 221–234.
- Havrdova, E. – Arnold, D. L. – Bar-Or, A., et al.: No evidence of disease activity (NEDA) analysis by epochs in patients with relapsing multiple sclerosis treated with ocrelizumab vs interferon beta-1a. *Multiple Sclerosis Journal — Experimental, Translational and Clinical*, leden–březen 2018, s. 1–11.
- Montalban, X. – Hauser, S. L. – Kappos, L., et al.; for the ORATORIO Clinical Investigators: Ocrelizumab versus placebo in primary progressive multiple sclerosis. *N Engl J Med*, 2017, 376, s. 209–220.
- Giovannoni, G. – Comi, G. – Cook, S., et al.; CLARITY Study Group: A placebo-controlled trial of oral cladribine for relapsing multiple sclerosis. *N Engl J Med*, 2010, 362, s. 416–426.
- Traboulsee, A. – Giovannoni, G. – Bar-Or, A., et al.: NEDA analysis by epoch in patients with relapsing multiple sclerosis. *ACTRIMS*, 2013, 2017, poster P017.
- Bar-Or, A. – Grove, R. A. – Austin, D. J., et al.: Subcutaneous ofatumumab in patients with relapsing-remitting multiple sclerosis: The MIRROR study. *Neurology*, 2018, 90, s. e1805–e1814.
- Olsson, T. – Boster, A. – Fernández, O., et al.: Oral ponesimod in relapsing-remitting multiple sclerosis: a randomised phase II trial. *J Neurol Neurosurg Psychiatry*, 2014, 85, s. 1198–1208.
- Klistorner, A. – Chai, Y. – Leocani, L., et al.; on behalf of RENEW MF-VEP Investigators. Assessment of opicinumab in acute optic neuritis using multifocal visual evoked potential. *CNS Drugs*, dostupné z: <https://doi.org/10.1007/s40263-018-0575-8>, vyhledáno 2. 1. 2019.
- Kappos, L. – Bar-Or, A. – Cree, A. C., et al.; EXPAND Clinical Investigators: Siponimod versus placebo in secondary progressive multiple sclerosis (EXPAND): a double-blind, randomised, phase 3 study. *Lancet*, 2018, 391, s. 1263–1273.
- Koscielny, V.: Phase III SUNBEAM and RADIANCE PART B trials for Ozanimod in relapsing multiple sclerosis demonstrate superiority versus interferon-β-1a in reducing annualized relapse rates and MRI brain lesions. *Neurodegener Dis Manag*, 2018, 8, s. 141–142.

Onkologická léčba u roztroušené sklerózy

MUDr. Jiří Slíva, Ph.D. Ústav farmakologie, 3. LF UK, Praha

- Casetta, I. – Iuliano, G. – Filippini, G.: Azathioprine for multiple sclerosis. *Cochrane Database Syst Rev*, 2007, 4, CD003982.
- Martinelli Boneschi, F. – Vacchi, L. – Rovaris, M., et al.: Mitoxantrone for multiple sclerosis. *Cochrane Database Syst Rev*, 2013, 4, CD002127.
- Marrion, J. J. – Miyasaki, J. M. – Gronseth, G., et al.: Evidence report: the efficacy and safety of mitoxantrone (Novantrone) in the treatment of multiple sclerosis: report of the Therapeutics and Technology Assessment Subcommittee of the American Academy of Neurology. *Neurology*, 2010, 74, s. 1463–1470.
- Martinelli, V. – Cocco, E. – Capra, R., et al.; Italian Mitoxantrone Group: Acute myeloid leukemia in Italian patients with multiple sclerosis treated with mitoxantrone. *Neurology*, 2011, 77, s. 1887–1895.
- Stroet, A. – Hemmelmann, C. – Starck, M., et al.: Incidence of therapy-related acute leukaemia in mitoxantrone-treated multiple sclerosis patients in Germany. *Ther Adv Neurol Disord*, 2012, 5, s. 75–79.
- The Canadian Cooperative Multiple Sclerosis Study Group: The Canadian cooperative trial of cyclophosphamide and plasma exchange in progressive multiple sclerosis. *Lancet*, 1991, 337, s. 441–446.
- Filippini, G. – Del Giovane, C. – Vacchi, L., et al.: Immunomodulators and immunosuppressants for multiple sclerosis: a network meta-analysis. *Cochrane Database Syst Rev*, 2013, 6, CD008933.
- Nielsen, N. M. – Rostgaard, K. – Rasmussen, S., et al.: Cancer risk among patients with multiple sclerosis: a population-based register study. *Int J Cancer*, 2006, 118, s. 979–984.
- Bahmanyar, S. – Montgomery, S. M. – Hillert, J., et al.: Cancer risk among patients with multiple sclerosis and their parents. *Neurology*, 2009, 72, s. 1170–1177.
- Landgren, A. M. – Landgren, O. – Gridley, G., et al.: Autoimmune disease and subsequent risk of developing alimentary tract cancers among 4.5 million US male veterans. *Cancer*, 2011, 117, s. 1163–1171.
- Kingwell, E. – Bajdik, C. – Phillips, N., et al.: Cancer risk in multiple sclerosis: findings from British Columbia, Canada. *Brain*, 2012, 135, s. 2973–2979.
- Ragonese, P. – Aridon, P. – Vazzoler, G., et al.: Association between multiple sclerosis, cancer risk, and immunosuppressant treatment: a cohort study. *BMC Neurol*, 2017, 17, s. 155.
- Kingwell, E. – Evans, C. – Zhu, F., et al.: Assessment of cancer risk with β-interferon treatment for multiple sclerosis. *J Neurol Neurosurg Psychiatr*, 2014, 85, s. 1096–1102.
- Marrie, R. A. – Cohen, J. – Stuve, O., et al.: A systematic review of the incidence and prevalence of comorbidity in multiple sclerosis: Overview. *Mult Scler J*, 2015, 3, s. 294–304.