

### **Prädiktive Tumorpathologie**

Biomarkers and surrogate endpoints: preferred definitions and conceptual framework. Clin Pharmacol Ther 69, 89-95 (2001).

### **Molekularpathologischer KRAS-Mutationstest beim Dickdarmkarzinom**

#### **1. Zulassung der EMEA**

- European Medicines Agency (EMA). <http://www.emea.europa.eu/>.

#### **2. QuIP - Information zu den Ringversuchen zum qualitätsgesicherten molekularpathologischen Nachweis der KRAS Mutation beim metastasierten kolorektaltelane Karzinom**

- Deutsche Gesellschaft für Pathologie. <http://www.dgp-berlin.de>.

#### **3. KRAS als Biomarker**

- Amado, R. G. et al. Wild-type KRAS is required for panitumumab efficacy in patients with metastatic colorectal cancer. J Clin Oncol 26, 1626-34 (2008).
- Artale, S. et al. Mutations of KRAS and BRAF in primary and matched metastatic sites of colorectal cancer. J Clin Oncol 26, 4217-9 (2008).
- Ciardiello, F. & Tortora, G. EGFR antagonists in cancer treatment. N Engl J Med 358, 1160-74 (2008).
- Heinemann, V., Stintzing, S., Kirchner, T., Boeck, S. & Jung, A. Clinical relevance of EGFR- and KRAS-status in colorectal cancer patients treated with monoclonal antibodies directed against the EGFR. Cancer Treat Rev 35, 262-71 (2009). **REVIEW**
- Laurent-Puig, P., Lievre, A. & Blons, H. Beyond the KRAS test. Eur J Cancer 45 Suppl 1, 398-9 (2009).
- Oliveira, C. et al. KRAS and BRAF oncogenic mutations in MSS colorectal carcinoma progression. Oncogene 26, 158-63 (2007).
- Sanger Cancer Centre (UK). <http://www.sanger.ac.uk>. COSMIC (Catalogue of Somatic Mutations in Cancer) (21.10.2009).
- Van Cutsem, E. et al. Cetuximab and chemotherapy as initial treatment for metastatic colorectal cancer. N Engl J Med 360, 1408-17 (2009).

### **Molekularpathologischer EGFR-Mutationstest beim nicht-kleinzelligen Lungenkarzinom**

#### **1. Zulassung der EMEA**

- European Medicines Agency (EMA). <http://www.emea.europa.eu/>.

#### **2. QuIP - Information zu den Ringversuchen zum qualitätsgesicherten molekularpathologischen Nachweis der EGFR Mutation beim Nicht-kleinzelligen Bronchialkarzinom (NSCLC)**

- Deutsche Gesellschaft für Pathologie. <http://www.dgp-berlin.de>.

#### **3. EGFR als Biomarker**

- Gazdar AF. Personalized medicine and inhibition of EGFR signaling in lung cancer N Engl J Med. 2009;36:1018-20
- Hirsch FR. The role of genetic testing in the prediction of response to EGFR inhibitors in NSCLC. Oncogene 2009;28:S1-3

- John T, Liu G, Tsao MS. Overview of molecular testing in non-small-cell lung cancer: mutational analysis, gene copy number, protein expression and other biomarkers of EGFR for the prediction of response to tyrosine kinase inhibitors. *Oncogene* 2009;28:S14-23
- Lee YJ, Park IK, Park MS, Choi HJ, Cho BC, Chung KY, Kim SK, Chang J, Moon JW, Kim H, Choi SH, Kim JH. Activating mutations within the EGFR kinase domain: a molecular predictor of disease-free survival in resected pulmonary adenocarcinoma *J Cancer Res Clin Oncol.* 2009;135:1647-54
- Mok TS, Wu YL, Thongprasert S, Yang CH, Chu DT, Saijo N, Sunpaweravong P, Han B, Margono B, Ichinose Y, Nishiwaki Y, Ohe Y, Yang JJ, Chewaskulyong B, Jiang H, Duffield EL, Watkins CL, Armour AA, Fukuoka M. Gefitinib or carboplatin-paclitaxel in pulmonary adenocarcinoma. *N Engl J Med* 2009;361:947-57
- Mok TS, Wu YL, Yu CJ, Zhou C, Chen YM, Zhang L, Ignacio J, Liao M, Srimuninnimit V, Boyer MJ, Chua-Tan M, Sriuranpong V, Sudoyo AW, Jin K, Johnston M, Chui W, Lee JS. Randomized, placebo-controlled, phase II study of sequential erlotinib and chemotherapy as first-line treatment for advanced non-small-cell lung cancer. *J Clin Oncol* 2009;27(30):5080-7
- Pérez-Soler R. Individualized therapy in non-small-cell lung cancer: future versus current clinical practice. *Oncogene* 2009;28:S38-45

### **Serratiere Polypen als neue Krebsvorstufen im Dickdarm**

- Jass JR. Classification of colorectal cancer based on correlation of clinical morphological and molecular features. *Histopathology* 2007;50:113-30.
- Snover DC, Jass JR, Fenoglio-Preiser C, Batts KP. Serrated polyps of the large intestine: a morphologic and molecular review of an evolving concept. *Am J Clin Pathol* 2005;124:380-91
- Torlakovic E, Skovlund E, Snover DC, Torlakovic G, Nesland JM. Morphologic reappraisal of serrated colorectal polyps. *Am J Surg Pathol* 2003;27:65-81

### **Neue Molekularpathologische Entitäten**

#### **1. Triple negative Mammakarzinome**

- Diaz LK, Cryns VL, Symmans WF, Sneige N. Triple negative breast carcinoma and the basal phenotype: from expression profiling to clinical practice.. *Adv Anat Pathol* 2007;14:419-30
- Kang SP, Martel M, Harris LN. Triple negative breast cancer: current understanding of biology and treatment options. *Curr Opin Obstet Gynecol* 2008;20:40-6
- Korsching E, Jeffrey SS, Meinerz W, Decker T, Boecker W, Buerger H. Basal carcinoma of the breast revisited: an old entity with new interpretations. *J Clin Pathol* 2008;61:553-60.

#### **2. High-grade microsatellite instable (MSI-H) kolorektale Tumoren, Medulläres kolorektales Karzinom**

- Benatti P, Gafa R, Barana D, Marino M, Scarselli A, Pedroni M, Maestri I, Guerzoni L, Roncucci L, Menigatti M, Roncari B, Maffei S, Rossi G, Ponti G, Santini A, Losi L, Di Gregorio C, Olini C, Ponz de Leon M, Lanza G. Microsatellite instability and colorectal cancer prognosis. *Clin Cancer Res* 2005;11:8332-40.
- Carethers JM, Chauhan DP, Fink D, Nebel S, Bresalier RS, Howell SB, Boland CR. Mismatch repair proficiency and in vitro response to 5-fluorouracil. *Gastroenterology* 1999;117:123-31.
- de la Chapelle A. Genetic predisposition to colorectal cancer. *Nat Rev Cancer* 2004;4:769-80.

- des Guetz G, Mariani P, Cucherousset J, Benamoun M, Lagorce C, Sastre X, Le Toumelin P, Uzzan B, Perret GY, Morere JF, Breau JL, Fagard R, Schischmanoff PO. Microsatellite instability and sensitivity to FOLFOX treatment in metastatic colorectal cancer. *Anticancer Res* 2007;27:2715-9.
- des Guetz G, Schischmanoff O, Nicolas P, Perret GY, Morere JF, Uzzan B. Does microsatellite instability predict the efficacy of adjuvant chemotherapy in colorectal cancer? A systematic review with meta-analysis. *Eur J Cancer* 2009;45:1890-6.
- Jiricny J. The multifaceted mismatch-repair system. *Nat Rev Mol Cell Biol* 2006;7:335-46.
- Lindor NM, Burgart LJ, Leontovich O, Goldberg RM, Cunningham JM, Sargent DJ, Walsh-Vockley C, Petersen GM, Walsh MD, Leggett BA, Young JP, Barker MA, Jass JR, Hopper J, Gallinger S, Bapat B, Redston M, Thibodeau SN. Immunohistochemistry versus microsatellite instability testing in phenotyping colorectal tumors. *J Clin Oncol* 2002;20:1043-8.
- Malesci A, Laghi L, Bianchi P, Delconte G, Randolph A, Torri V, Carnaghi C, Doci R, Rosati R, Montorsi M, Roncalli M, Gennari L, Santoro A. Reduced likelihood of metastases in patients with microsatellite-unstable colorectal cancer. *Clin Cancer Res* 2007;13:3831-9.
- Toyota M, Issa JP. CpG island methylator phenotypes in aging and cancer. *Semin Cancer Biol* 1999;9:349-57.
- Umar A, Risinger JI, Hawk ET, Barrett JC. Testing guidelines for hereditary non-polyposis colorectal cancer. *Nat Rev Cancer* 2004;4:153-8.
- Wright CM, Dent OF, Barker M, Newland RC, Chapuis PH, Bokey EL, Young JP, Leggett BA, Jass JR, Macdonald GA. Prognostic significance of extensive microsatellite instability in sporadic clinicopathological stage C colorectal cancer. *Br J Surg* 2000;87:1197-202.

### **3. Das Medulläre Karzinom als Beispiel eines lokoregionären wachsenden Karzinoms**

- Jessurun J, Romero-Guadarrama M, Manivel JC. Medullary adenocarcinoma of the colon: clinicopathologic study of 11 cases. *Hum Pathol* 1999;30:843-8.
- Lanza G, Gafa R, Matteuzzi M, Santini A. Medullary-type poorly differentiated adenocarcinoma of the large bowel: a distinct clinicopathologic entity characterized by microsatellite instability and improved survival. *J Clin Oncol* 1999;17:2429-38.
- Ruschoff J, Dietmaier W, Luttges J, Seitz G, Bocker T, Zirngibl H, Schlegel J, Schackert HK, Jauch KW, Hofstaedter F. Poorly differentiated colonic adenocarcinoma, medullary type: clinical, phenotypic, and molecular characteristics. *Am J Pathol* 1997;150:1815-25