



DEUTSCHE GESELLSCHAFT  
FÜR PATHOLOGIE E.V.  
Seit 1897 – dem Leben verpflichtet

101. Jahrestagung der Deutschen Gesellschaft für Pathologie  
Erlangen, 22. – 24. Juni 2017

Pathologie: Innovation und Kooperation



## GEMEINSAMER UNGARISCH-DEUTSCHER WORKSHOP I (INT01)



Freitag, 23. Juni 08:30 - 10:00

📍 Aquarius

📺 INTERNATIONALE SITZUNG DGP

### Moderatoren

Antrás Kiss, Budapest

Beate K. Straub, Mainz

### Präsentationen

**08:30 Uhr**

INT01.01 ☆

Syndecan-1 and decorin and their role in hepatocellular cancer

Ilona Kovalszky

**08:48 Uhr**

INT01.02 ☆

📺 Two- and three-dimensional quantitative aspects of tumor budding in periampullary cancer

### Two- and three-dimensional quantitative aspects of tumor budding in periampullary cancer

Two- and three-dimensional quantitative aspects of tumor budding in periampullary cancer

A. Csanadi<sup>1, 2</sup>, E. Kocsmar<sup>1, 3</sup>, A. Kiss<sup>3</sup>, G. Lotz<sup>3</sup>, K. Enderle-Ammour<sup>1, 2</sup>, E. Stickeler<sup>4</sup>, P. Reiss<sup>5</sup>, M. Bader<sup>1</sup>, K. Franke<sup>6</sup>, S. Timme<sup>1</sup>, M. Kuehs<sup>1, 7</sup>, O. Schilling<sup>2, 8</sup>, B. Kulemann<sup>9</sup>, J. Höppner<sup>7, 9</sup>, T. Brabletz<sup>10</sup>, M. Werner<sup>1, 2, 7</sup>, U.F. Wellner<sup>11</sup>, P. Bronsert<sup>1, 2, 7</sup>

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Process and prognostic impact of tumor budding are reflected by cell morphology, migration and activation of the epithelial-mesenchymal transition (EMT) program. Interestingly, in the literature fundamental aspects of tumor budding, i.e. the structure or number of cells defining a tumor bud, are not discussed and taken for granted. In vivo data demonstrate that EMT is directly associated with tumor budding. As demonstrated previously the majority of tumor buds are not truly detached from but connected to a major tumor mass. Also, there is no region and/or entity reliable reference for the exact quantity of cells defining a tumor bud.

For detailed insights into the two different tumor-bud-types (connected = CTB, and not connected to the main tumor mass = ITB) and for tumor budding cut off calculation we quantified tumor cells according to immunohistological EMT characteristics in eight high power fields. First, from four different adenocarcinomas (pancreatic-, colorectal-, lung - and invasive ductal breast cancer) three-dimensional reconstruction, quantification and qualification for ZEB 1 and E-Cadherin (E-Cad) was performed as published. Tumor buds were classified into main tumor mass (MTM), connected tumor buds (CTB) and isolated tumor buds (ITB). Secondly, in a cohort of periampullary cancer (166 patients) tumor cell formations were manually quantified.

EMT characteristics (ZEB1, E-Cad) between ITB and CTB demonstrated no significances. Tumor-cell-count correlated significantly with EMT ( $p < 0.001$ ) and histomorphological characteristics ( $p < 0.001$ ). Regression curve analysis revealed initially a loss of membranous E-Cad (cutoff 9 cells), followed by expression of cytoplasmic E-Cad (cutoff 8 cells) and subsequent an expression of nuclear ZEB1 (cutoff 4 cells). Tumor cell quantification revealed a significant impact onto overall survival at five (ampullary = AMPAC and distal bile duct cancer = DBDC) and forty cells (PDAC) comprising a tumor bud.

Our data demonstrate, that connected and isolated tumor buds are equal concerning immunohistochemical EMT characteristics and histomorphology. While there is a notion that the EMT ZEB1 – E-Cad cascade is initiated by ZEB1 our results are quantitatively contrary. Furthermore we verify the number of tumor cells ( $n=5$ ) defining for tumor buds in AMPAC and DBDC but not for PDAC as multivariate significant prognosticators.

Agnes Csanadi

**09:06 Uhr**

INT01.03 ☆

Mid-infrared imaging is a potential method to distinguish single cells of different cell lines in mixed cell population in vitro

Endre Kontsek

**09:24 Uhr**

INT01.04 ☆

Monitoring of Mitochondrial mass and expression of autophagy in Cholangiocarcinoma

Timea Szekerczés

**09:42 Uhr**

INT01.05 ☆

☑ Frequent ATM mutations and chromosomal instability in pancreatic intraductal papillary mucinous neoplasms of intestinal type

Bence Sipos

