

## Perubahan arsitektur dan sitomorfologi sel pada cairan peritoneum sebagai penanda keganasan neoplasma epitelial ovarium = Architectural and cytomorphology changes in peritoneal fluid as a sign of malignancy in ovarian epithelial neoplasm

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### Abstrak

Latar belakang: Interpretasi cairan peritoneum yang tepat secara sitopatologi sangat mempengaruhi tatalaksana dan prognosis pasien, padahal pemeriksaan sitopatologi cairan peritoneum masih memiliki nilai negatif palsu dan positif palsu yang cukup tinggi, dan hingga saat ini penelitian tentang arsitektur sitopatologi maupun penanda sitomorfologi yang mengarahkan pada adanya sel neoplasma di cairan peritoneum masih menunjukkan hasil yang beragam.

Bahan dan cara kerja: Penelitian potong lintang dengan data sekunder berupa slaid dan formulir sediaan sitopatologi cairan peritoneum yang memiliki data berpasangan dengan diagnosis histopatologi. Diagnosis klinis berupa neoplasma epitelial ovarium. Slaid dan formulir diambil dari arsip Departemen Patologi Anatomi FKUI/RSCM tahun 2011 - 2012, dilakukan pembacaan ulang semua slaid sitopatologi dengan diagnosis akhir dikategorikan sebagai positif atau negatif, peneliti membaca pula sediaan histopatologi untuk mengetahui morfologi sel pada lesi, kemudian dilakukan penilaian terhadap arsitektur sitopatologi berupa: selularitas, sel berkelompok, struktur papiler, intercellular windows, group contours, jigsaw psamoma, dan penanda sitomorfologi berupa: atipia inti, inti bertumpuk, anak inti, rasio inti:sitoplasma, ukuran inti, dan ukuran sel.

Hasil penelitian: Sampel penelitian sejumlah 47 sediaan sitopatologi dengan diagnosis sitopatologi akhir 34 kasus (72.3%) negatif, 13 kasus (27.7%) positif. Terdapat perbedaan bermakna arsitektur sitopatologi berupa: selularitas ( $p = 0.017$ ), sel berkelompok ( $p = 0.001$ ), intercellular windows ( $p = 0.00$ ), group contours ( $p = 0.00$ ), dan gambaran sitomorfologi berupa: atipia inti ( $p = 0.00$ ), inti bertumpuk ( $p = 0.001$ ), anak inti ( $p = 0.001$ ), rasio inti:sitoplasma ( $p = 0.00$ ), ukuran inti ( $p = 0.00$ ), ukuran sel ( $p = 0.00$ ) antara cairan peritoneum positif dan negatif. Melalui uji multivariat didapatkan penanda yang paling berpengaruh terhadap diagnosis sitopatologi positif atau negatif yaitu: intercellular windows, atipia inti, dan selularitas.

Kesimpulan: Terdapat tiga penanda yang paling berpengaruh terhadap diagnosis positif ditemukannya sel neoplasma ganas dalam cairan peritoneum pada kasus dengan lesi ovarium, secara berturut - turut yaitu: tidak ditemukannya intercellular windows pada kelompokan sel, sel memiliki atipia inti sedang hingga berat, dan selularitas lebih dari 20 kelompok dari keseluruhan sediaan apus.

<hr>Background : Peritoneal fluid cytopathology interpretation profoundly influences patients management and prognosis, however this practice still has high false positive and false negative value, and until now research concerning the architectural and cytomorphology features for detecting malignant cells in peritoneal fluid still has various result.

**Materials and Methods :** Cross sectional study using secondary data of peritoneal fluid cytopathology and histopathology slides and form, from patients with clinical diagnosis of ovarian epithelial neoplasm. The data was taken from the archive of Anatomical Pathology Department Cipto Mangunkusumo Hospital 2011 - 2012. The researchers examined the cytopathology slides and also examined the histopatology slide for morphology comparison, and then make a final cytopathological diagnosis of positive peritoneal fluid containing neoplastic cells or negative. Architectural features including: cellularity, cells grouping, papillary structure, intercellular windows, group contours, psamoma bodies, and cytomorphology features including: nuclear atypia, overlapping nuclei, nucleoli, nuclei : cytoplasm ratio, the dimension of the nuclei and cells were also examined.

**Result :** There were 47 samples with final cytopathology diagnosis: 34 cases (72.3%) negative for neoplastic cells in the peritoneal fluid and 13 cases (27.7%) positive. There were significant differences in cytopathology architectural including cellularity ( $p = 0.017$ ), cells grouping ( $p = 0.001$ ), intercellular windows ( $p = 0.00$ ), group contours ( $p = 0.00$ ) and cytomorphology features including nuclear atypia ( $p = 0.00$ ), overlapping nuclei ( $p = 0.001$ ), nucleoli ( $p = 0.001$ ), nuclei : cytoplasm ratio ( $p = 0.00$ ), the dimension of nuclei ( $p = 0.00$ ), the dimension of cell ( $p = 0.00$ ) between the positive and negative peritoneal fluid cytopathology. Using multivariate analysis there were 3 cytological features that have the strongest association with positive or negative peritoneal cytopathology diagnosis, they were: intercellular windows, nuclear atypia, and cellularity.

**Conclusion:** In peritoneal fluid cytopathology for examining ovarian lesion there were 3 cytological features that have the strongest association with finding neoplastic cells in peritoneal fluid, they were: the absent of intercellular windows, moderate to severe cytological atypia, and cellularity more than 20 groups in all smear preparation.