ISO-4 Criteria for the Safety of Less Radical Trachelectomy in Early-stage Cervical Cancer: A Multi-center Study

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Objective: We sought to identify the criteria for the safety of less radical trachelectomy in FIGO IA1-IB1 cervical cancer. Methods: We reviewed medical records and pathological slides of 65 patients with FIGO stage IA1-IB1 cervical cancer from 6 tertiary medical centers between November 2001 and March 2011. No parametrial involvement and lymph node metastasis were considered for defining the safety of less radical trachelectomy. The criteria for no parametrial involvement and lymph node metastasis were determined using the receiver operating characteristic (ROC) curve, and we compared clinic-pathologic outcomes between safety and risk groups for less radical tracheectomy. Results: The median age of all patients was 31 years (range, 22-44 years), and their diseases consisted of FIGO stage IA1 (n=6), IA2 (n=5) and IB1 (n=54) cervical cancer. The mean values of stromal invasion and tumor size were 4.2±0.88 mm and 1.8±1.1 cm. ROC curve showed that stromal invasion ≤5 mm and tumor size ≤10 mm could have the safety for less radical tracheectomy. When we compared clinic-pathologic outcomes between safety (stromal invasion ≤5 mm and tumor size ≤10 mm) and risk (stromal invasion>5 mm and tumor size>10 mm) groups, safety group showed no parametrial involvement and lymph node metastasis (Table 1). On the other hand, there was no difference in progression-free survival between the 2 groups (Fig. 1). Conclusion: These findings suggest that less radical tracheectomy may be safe in cervical cancer patients with stromal invasion ≤5 mm and tumor size ≤10 mm.

ISO-5 A nanoplatform to assist clinical diagnosis of ovarian cancer

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Objective: Cells respond to both micro-structure and nano-structure. We have shown that quantitative indexes associated with migration and growth can be derived by nanoplatform instantly. The objective is to apply nanoplatform to distinguish cancer cell lines by their migration and growth potentials. Methods: We have fabricated a nanoplatform composed of a matrix of nine nanodot arrays with various dot sizes ranging from a flat surface to 10-nm, 50-nm, 100-nm, and 200-nm arrays. HELEA, C3A, ES2, PA-1, TOV-112D, TOV-21G, MG63, and NIH-3T3 cells were seeded onto the device and cultured for three days. Cell density was measured to examine the proliferation of cells, and scanning electron microscopy (SEM) was performed to assess apoptosis-like morphological changes in cells. To evaluate cell adhesion and cytoskeletal reorganization, immunostaining specific to vinculin and actin filaments was performed. Results: To evaluate the size-dependent effect of nanodot arrays on cell growth, indices corresponding to cell proliferation, apoptosis, cell adhesion, and cytoskeletal organization were defined. VD50 is defined as the diameter of nanodot on which 50% of the cell population remains viable. AD50 is defined as the diameter of nanodot on which 50% of the cell population appears to have an apoptosis-like morphology. VD50 is the diameter of nanodot that promotes the formation of 50% of the focal adhesions compared to cells grown on a flat surface. C50 is defined as the diameter of nanodot on which cells have half the amount of microfilament bundles compared to cells grown on a flat surface. We were able to distinguish between the migration ability of HELEA versus later-stage C3A cells. Ovarian cancer cell lines (ES2, PA-1, TOV-112D, and TOV-21G) also exhibited differential growth parameters that are associated with cell type, grade, and stage. Conclusion: We have established a nanoplatform that can be used to assess quantitative parameters for the growth and migration of cancer cell lines. According to our results, the device is capable of distinguishing among cancer cell lines of various stages to assist clinical diagnosis. Association with 5-year survival rate will be discussed.

ISO-6 Retrospective analyses on prognosis of high grade endometrial cancer: A comparison of serous type and clear cell type to Grade 3 endometrioid type

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Objective: To evaluate prognosis of high grade endometrial cancer (EC) patients, comparing serous (S) and clear cell (C) to grade 3 endometrioid (G3) carcinoma. [Methods] Data concerning women with S, C and G3 were collected retrospectively, Clinical variables were analysed using Fisher exact test. Overall (OS) and progression-free survival (PFS) were evaluated using Kaplan-Meier method and Cox proportional hazards models. [Results] Of 443 ECs, 105 (24%) high grade ECs were identified, with the increasing incidence in the last decade (28% vs. 19%: p<0.0032). There were 24 S, 14 C and 67 G3. Median age was 62 (N.S.), 68 (p=0.0015) and 60, respectively. The rates of stage II—IV and incomplete resection at primary surgery were not significantly different; however, response rates to first-line chemotherapy in patients with measurable disease were different: 3/10 (30%: p=0.0048), 0/0 and 15/20 (75%), respectively. Five-year OS was 39% (p=0.041), 69% (N.S.) and 67%, and 5-year PFS was 24% (p=0.0047), 70% (N.S.) and 58%. On multivariate analysis, age > 70, stage III—IV and incomplete resection were independent prognostic factors on poor OS, whereas S type, stage III—IV and incomplete resection were on poor PFS. [Conclusion] The increasing trend of high grade EC was suggested. Compared to G3, S had a poor prognosis, especially in PFS, probably reflecting poorer chemotherapy responses.