Abstract #729  PCNA IN CERVICAL INTRAEPITHELIAL NEOPLASIA AND CERVICAL CANCER: AN INTERACTION NETWORK ANALYSIS OF DIFFERENTIALLY EXPRESSED GENES

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Introduction/Background  The investigation of differentially expressed genes (DEGs) and their interactome could provide valuable insights for the development of markers to optimize cervical intraepithelial neoplasia (CIN) screening and treatment. This study investigated patients with cervical disease to identify gene markers whose dysregulated expression and protein interaction interface were linked with CIN and cervical cancer (CC).

Methodology  Literature search of microarray datasets containing cervical epithelial samples was conducted in Gene Expression Omnibus and PubMed/medline from inception until March 2021. Retrieved DEGs were used to construct two protein-protein interaction (PPI) networks. Module DEGs that overlapped between CIN and CC samples were ranked based on 11 topological algorithms. The highest-ranked hub gene was retrieved and its correlation with prognosis, tissue expression and interactions. Further analysis revealed the highest ranked hub gene between the two networks, both in terms of expression and interactions. Multi-algorithmic topological analysis revealed PCNA as the highest ranked hub gene between the two networks, both in terms of expression and interactions. Further analysis revealed that while PCNA was overexpressed in CC tissues, it was correlated with favorable prognosis (log-rank P=0.022, HR=0.58) and tumor purity (P=9.86 × 10^-4, partial rho=0.197) in CC patients. This study identified that cervical PCNA exhibited multi-algorithmic topological significance among DEGs from CIN and CC samples.

Conclusion  Our study identified that cervical PCNA exhibited multi-algorithmic topological significance among DEGs from CIN and CC samples. Overall, PCNA may serve as a potential gene marker of CIN progression. Experimental validation is necessary to examine the screening, diagnostic and prognostic value of PCNA in patients with CIN and CC.

Disclosures  The authors declare no conflict of interest with regards to the presented work; a number of authors are investigators of the NIHR EME funded NOVEL trial (MK, KSK, and IK); this trial is also supported by MSD who supplied the vaccines for the trial.

Abstract #749  OPTIMIZING BRACHYTHERAPY APPLICATORS IMPLANTATION IN LOCALLY ADVANCED CERVICAL CANCER WITH TRANSRECTAL ULTRASOUND GUIDANCE

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Conclusion  Our study identified that cervical PCNA exhibited multi-algorithmic topological significance among DEGs from CIN and CC samples. Overall, PCNA may serve as a potential gene marker of CIN progression. Experimental validation is necessary to examine the screening, diagnostic and prognostic value of PCNA in patients with CIN and CC.

Disclosures  n/a
Introduction/Background Brachytherapy is a key step in the treatment of locally advanced cervical cancer (LACC). We aim to report our experience with the use of transrectal ultrasound (TRUS)-guided implantation of brachytherapy applicators.

Methodology A monocentric retrospective study was conducted at the University Hospital of Liège between January 2018 and August 2022, including 141 patients who underwent intracavitary ± interstitial applicator implantation with TRUS guidance for high-dose-rate image-guided adaptive brachytherapy (HDR-IGABT) for a total of 274 procedures. The procedure and the treatment planning with magnetic resonance imaging (MRI) were analyzed. Accuracy of implantation, D95 for high-risk clinical target volume (HR-CTV), organs-at-risk (OAR), dose constraints D2cc (minimal dose of the 2cc with the highest dose), complications, and local control were described.

Results The procedure was successfully performed in 273 (99.6%) cases, with only one requiring immediate readjustment due to inappropriate implantation. 266 procedures (97%) were conducted with routine material (ring and tandem applicator + interstitial needles), and 8 (3%) required adapted material due to intraoperative anatomical difficulties. Based on MRI, we have reported 7 (2.5%) cases of complete uterine perforation through endoluminal applicator and 2 (0.7%) cases of intestinal perforation by interstitial needles. These 9 cases of perforation had no subsequent clinical consequences. The mean D95 HR-CTV was 83.3 Gy, while mean rectum, sigmoid, and bladder D2cc were 60.4, 56.6, and 75.4 Gy, respectively. With a median follow-up of 19.1 months, local control was achieved in 125 patients (88.7%).

Conclusion In this study, all patients with LACC benefited from IGABT, and no procedure withdrawal were necessitated. The use of TRUS intraoperative guidance allows the applicators implantation optimization. This appears to be a reliable and effective method resulting in high local control rates for LACC patients with a low rate of clinically meaningful complications.

Disclosures None

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CONSENSUS ON SURGICAL STEPS FOR SENTINEL LYMPH NODE DISSECTION IN CERVICAL CANCER

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Abstract #756 Figure 1

Recommended algorithm (experts agreement % in parenthesis)

Disclosures None

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IN STAGING OF LYMPH NODE POSITIVE CERVICAL CANCER, THE WIND IN THE AJCC WAS CALMED AND MATCHED WITH FIGO STAGING. FIGO STAGING IS ESSENTIAL, BUT AJCC’S SOUND IS GOOD

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Introduction/Background American Joint Committee on Cancer (AJCC) released its 9th-version in 2021 similar as FIGO-2018. Previously, there was a mismatch between the FIGO and AJCC stages. While lymph node (LN) involvement did not change the stage in FIGO-2009, in AJCC-7th, the presence of pelvic LN was staged as IIIb, the presence of PA-LN as IVb. In AJCC-8th, the presence of LN did not affect AJCC prognostic stage groups. In this study, stage distributions according to the changing FIGO and AJCC (TNM) staging system in patients with LN-positive cervical cancer were examined.