

**Conclusion** These data came to demonstrate that even in cases in which mild forms of COVID-19 infections have been reported, extended surgical procedures such as pelvic exenteration might be associated with a higher risk of perioperative complications.

2022-RA-452-ESGO

#### AUTOMATIC SEMANTIC SEGMENTATION OF CERVICAL CANCER BASED ON DYNAMIC CONTRAST-ENHANCED MRI AND FULLY CONVOLUTIONAL NETWORKS

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10.1136/ijgc-2022-ESGO.28

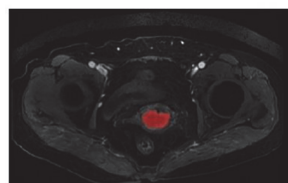
**Introduction/Background** In cervical cancer diagnosis, dynamic contrast-enhanced magnetic resonance imaging can reflect the access and distribution of blood vessels and tissues and has a certain effect on the evaluation of microvessels in tumors. This work developed and evaluated segmentation potential on DCE-MRI by fully convolutional networks, with aims to provide a clinical auto-delineation tool for subsequent radiotherapy.

**Methodology** Ninety contrast-enhanced MRI images of patients with cervical cancer were retrospectively enrolled. Sixteen patients did not participate in the model building process in order to verify the generalization ability. Totally 446 slices (512×512) with tumors were annotated by radiologists, among that 358 slices were used for training and 88 slices for testing (figure 1). A symmetric eight-layer deep networks were developed by the nnU-Net framework and the channel dimension was 32, 64, 128, 256, 480, 480, 480, 480, respectively. In addition, the training epoch was 1000 with a random 20% validation set (Initial lr=0.001, optimizer: SGD).

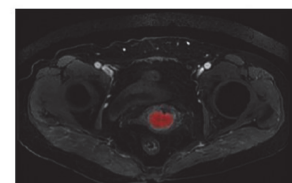
**Results** Dice similarity coefficient (DSC), 95% Hausdorff distance (95% HD) and average surface distance (ASD) were applied to evaluate the segmentation performance (table 1). The average DSC of all slices was 0.77 (median 0.83, maximum 0.95). The average 95% HD was 5.92 mm (median 3.56) and the average ASD was 0.88 mm (median 0.12). 14 of 16 patients' average DSC exceeded 0.70 and average ASD were less than 1.2 mm. Meanwhile, 10 of 16 patients' average 95% HD were less than 5 mm.

**Abstract 2022-RA-452-ESGO Table 1** Metrics (DSC, 95% HD, ASD) for gold standard and prediction results

Test ID	Tumor slices	AVG DSC	AVG 95% HD/mm	AVG ASD/mm
01	5	0.802398368	2.648528137	0.579955255
02	3	0.764765663	5.086088807	1.279313715
03	4	0.363191069	25.26658809	9.701525509
04	5	0.711299688	6.403639159	0.017534851
05	8	0.88574211	1.904508497	0.034909396
06	9	0.889465772	1.765149946	0.226110052
07	3	0.702562242	12.27649239	2.970711753
08	4	0.907961407	1.721587379	0.071985359
09	4	0.737839035	4.559016994	0.539111346
10	5	0.470104588	18.68421224	0.038117909
11	6	0.906675022	2.178511302	0.115151111
12	8	0.742710676	4.217750087	0.268539644
13	4	0.86889953	1.75	0.530898862
14	5	0.80668309	4.894427191	0.94316297
15	10	0.796706816	5.861343668	0.002822834
16	5	0.756411195	7.174376602	1.590445087
Total test tumor slices	88	0.773726876	5.918765372	0.876726805



(a)



(b)

**Abstract 2022-RA-452-ESGO Figure 1** Contrast-enhanced MRI images (a) cervical tumor area delineated by radiologists (b) cervical tumor area segmented by deep learning model

**Conclusion** This experimental result indicates that the tumor of cervical cancer on dynamic contrast-enhanced MRI images can be accurately segmented under small sampling, with a great application potential as assistant tool for real-time dynamic delineation. Deeper studies will be conducted by validating this model on a larger sample and enhancing the robustness of the model clinically.

2022-RA-566-ESGO

#### COST-EFFECTIVENESS OF CERVICAL CANCER SCREENING STRATEGIES AMONG WOMEN IN CAMEROON

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10.1136/ijgc-2022-ESGO.29

**Introduction/Background** Sub-Saharan Africa has the highest cervical cancer burden worldwide. Before implementing a cervical cancer screening programme, National authorities and decision-makers need to balance the benefits and costs of context-sensitive solutions. Our aim was to assess the cost-effectiveness of two cervical cancer screening strategies in Cameroon: i) HPV self-testing (Self-HPV), and (ii) Self-HPV and triage with Visual Inspection with Acid acetic (VIA) (Self-HPV/VIA) at frequencies twice to seven times between 30 and 60 years, at 5 or 10-year intervals.

**Methodology** A lifetime decision-analytic model has been calibrated to Cameroonian women. Costs parameters have been estimated based on real-life screening activities within the 3T-project in Cameroon. Utilities were accounted for in the model. Cost-effectiveness ratios have been assessed for each strategy and screening frequency compared with the absence of strategy.

**Results** Four combinations appeared to be the most cost-effective: Self-HPV/VIA at 35–45, and at 30–40–50 years, and Self-HPV every 5 and 10 years between 30 and 60 years old. The incremental cost per QALY gained for Self-HPV/VIA strategies was 403USD (393–413) at 35–45 years, and 690USD (671–708) at 30–40–50 years, 1035USD (1005–1057) for Self-HPV at 30–40–50–60 years, and 1592USD (1553–1620) at 30–35–40–45–50–55–60 years. Cervical cancer mortality was mostly lower with Self-HPV strategies.

Whatever the screening frequency, in both strategies, about 50% of costs were related to Self-HPV testing, while for the Self-HPV/VIA strategy, triage accounted for approximately 1% of costs. At equal frequencies, costs of precancerous treatment were higher in Self-HPV than Self-HPV/VIA strategies, due to high overtreatment rate of CIN1 in the absence of triaging. The costs of cancer treatment were comparable in both strategies.

**Conclusion** Cost-effectiveness depends on the type and frequency of screening. These results may support decision-makers in selecting adequate screening strategies and frequencies according to their willingness to pay per QALY gained.

2022-RA-579-ESGO

#### A PHASE II STUDY ASSESSING SAFETY AND EFFICACY OF CABOZANTINIB FOR ADVANCED OR METASTATIC CERVICAL CARCINOMA AFTER PLATINUM TREATMENT FAILURE (CABOCOL STUDY)

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10.1136/ijgc-2022-ESGO.30

**Introduction/Background** The addition of bevacizumab and pembrolizumab to platinum-based chemotherapy improves survival in advanced/metastatic cervical cancer (a/m CC). However, few therapeutic options are available after progression, associated with a poor prognosis. Cabozantinib, an oral small molecule tyrosine kinase inhibitor targeting several receptor tyrosine kinases known to influence tumor growth, metastasis, and angiogenesis, represents a potential active treatment in CC. CABOCOL study concomitantly assessed the efficacy and safety of cabozantinib monotherapy in a/m CC after failure to platinum-chemotherapy (NCT04205799)

**Methodology** CABOCOL was a single-arm two-stage multi-center phase II trial. Using a Bryant-and-Day design, the primary endpoint was based on both clinical efficacy and safety: the 3-month disease control rate (DCR) and the proportion of patients experiencing gastro-intestinal (GI) or genito-urinary (GU) perforation/fistula grade  $\geq 2$  within 1 month after the end of treatment. Considering  $\pi_{\text{Efficacy}0}=30\%$ / $\pi_{\text{Efficacy}1}=50\%$  the unacceptable/acceptable 3-month DCR, and  $\pi_{\text{Toxicity}0}=25\%$ / $\pi_{\text{Toxicity}1}=10\%$  the unacceptable/acceptable perforation/fistula rate, and a 10% drop-out rate, 57 patients were needed (51 assessable):  $p_{\text{Efficacy} \geq 21/51}$  and  $p_{\text{Toxicity} \leq 9/51}$  will allow considering the study as positive. Cabozantinib was administered at the daily oral dose of 60 mg in a 4-week cycle, up to disease progression or unacceptable toxicity.

**Results** From January 2020 to December 2021, 57 patients were enrolled (54 assessable): median age 56 years, 28 (52%) pre-treated by bevacizumab, median follow-up 7.4 months. For primary endpoint, 25/54 (46.3%) patients had disease control at 3 months and 6/54 (11.1%) patients presented a Grade  $\geq 2$  GU/GI fistula/perforation (5 fistula/1 perforation). Overall response rate was 9.3% (5/54), with no complete response. Median progression-free and overall survivals were 2.8 [95%CI: 2.5–4.6] and 8.9 [6.7–14] months, respectively. Toxicity-related dose reduction was observed for 26 patients. Grade  $\geq 3$  treatment-related adverse events were GI toxicities (13% G3, 2% G5), hypertension (7.5% G3), asthenia (14.8% G3).

**Conclusion** Cabozantinib monotherapy showed promising efficacy with manageable toxicity in a/m CC.

2022-RA-582-ESGO

#### LYMPHOEPITHELIOMA-LIKE CARCINOMA OF THE UTERINE CERVIX: A-THREE CASE STUDY

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10.1136/ijgc-2022-ESGO.31

**Introduction/Background** Lymphoepithelioma-like carcinoma (LELC) is a rare variant of squamous cell carcinoma (0.7% of primary cervical tumors). It has been identified in the lung, thymus, stomach, salivary glands and skin. Uterine cervical localization is very rare.

**Methodology** A retrospective descriptive study of 3 patients diagnosed with LELC of the uterine cervix in the radiotherapy oncology department of Farhat Hached Sousse. Data of the three cases was gathered between 1995 and 2018.

**Results** The patients were 26, 63 and 74 years old at the time of diagnosis. Clinical symptoms were dominated by metrorrhagia and pelvic pain. The gynecological examination showed a bleeding ulcerating mass of 4 to 12 cm long axis, delivered through the cervix in one patient and a bleeding cauliflower-like indurated cervix in the other two. The biopsy concluded to a LELC of the uterine cervix. The MRI showed locally advanced tumor with invasion of the vagina, parametria and posterior bladder wall, classified as IVA according to FIGO in all 3 patients. Node involvement of the internal iliacs was observed in one patient. Two patients had concomitant radio-chemotherapy and one patient was treated by exclusive Radiotherapy (RT). In the 3 patients, RT was delivered at a dose of 45Gy with a complement up to 66Gy in only 2 patients, at a rate of 1.8Gy/session, 5 sessions/week. The evolution was marked by the occurrence of two local recurrences after 4 to 5 years, treated by palliative CT. After a median follow-up time of 8 years, two patients died while one patient was in full recovery.

**Conclusion** LELC of the uterine cervix is a very rare tumor, distinguished by its morphological character and its often favorable prognosis, which was not the case in our observation given the discovery of the tumor at a late stage compared to the literature.