Introduction/Background Literature data suggests an association between PET/CT metabolic metrics and tumor microenvironment in several malignancies, and a potential role of PET/CT to monitor response to immunotherapy. The aim of the study is to evaluate the correlation between PET/CT tumor metabolic metrics and tumor-infiltrating lymphocytes (TILs) infiltration in locally advanced cervical cancer (LACC) prior to concurrent chemoradiotherapy. Methodology Patients with LACC and negative para-aortic extensions on the PET/CT were included. Two senior nuclear medicine physicians specialising in gynaecologic oncology reviewed all PET/CT exams, and extracted tumour SUVmax, MTV, TLG, and PET uptake of pelvic lymph nodes (PLN). One senior gynecologic oncology pathologist assessed intraepithelial (iTILs) and stromal tumor-infiltrating lymphocytes (sTILs). Results 86 patients were included in the analysis. High iTILs and sTILs were identified in 29 (34.9%) and 26 (30.2%) patients, respectively. iTILs and sTILs were non significantly associated with tumor metabolic metrics. A high sTILs score was significantly associated with PLN uptake (61.5% compared to 31.7% in low sTILs, p=0.009). Tumors with low iTILs score were significantly associated with a higher magnetic resonance imaging (MRI) tumor size (>median) (63.3% versus 39.3%, p=0.042). Low iTILs score was also higher in patients with lymph node aortic involvement (14.8% versus 3.4%).

Conclusion Poor or absent iTILs was associated with a more advanced disease at diagnosis, with larger tumor size, and more frequent para-aortic lymph node extension. Intraepithelial and stroma TILs are not redundant and should be assessed separately. Further work is needed to evaluate the association between tumor metabolic profile and immune populations, including different T-cell subtypes.

Abstract 2022-RA-711-ESGO Figure 1 Stromal tumor-infiltrating lymphocytes (sTILs) and lymph node PET/CT uptake

2022-RA-719-ESGO IMPACT OF COVID-19 ON RADICAL (CHEMO)RADIOThERAPY FOR LOCALLY ADVANCED CERVICAL CANCER IN THE WEST OF SCOTLAND, APRIL 2020 – MARCH 2021

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Introduction/Background Chemoradiotherapy (CCRT) is the gold standard treatment for locally advanced cervical cancer. The COVID-19 pandemic resulted in a UK-wide lockdown in March 2020. As a ‘Category 1’ malignancy, cervical cancer remained a key treatment priority, but the safety of chemotherapy was unclear, and many centres including our institution required urgent implementation of spinal or general anaesthesia to facilitate brachytherapy. We evaluated the impact of COVID-19 on the CCRT pathway. Methodology The central radiotherapy prescribing system at a single institution was interrogated to identify patients who commenced radical RT/CCRT from 1st April 2020 to 31st March 2021. Results Primary RT/CCRT was delivered to 80 patients (adjunct/salvage therapies were excluded). Median age was 53 years (range 30 – 77) and the majority had squamous cell carcinoma (75%). FIGO 2018 stage distribution was Stage I (3.8%), II (26.2%), III (47.5%) and IV (22.5%). Diagnostic imaging consisted of: MRI 96.3%; PET-CT 98.8%; both 95.0%. Concomitant cisplatin was administered to 81.3%; the remaining patients received neoadjuvant chemotherapy (10%) or had poor performance status/medical comorbidities precluding chemotherapy (8.7%). Median time to complete treatment was 39 days (range 31 – 59). Standard external beam dose of 4500cGy-5000cGy in 25 fractions was prescribed in virtually all cases (98.8%). Median brachytherapy dose was 2400cGy in 4 fractions. SABR boost was delivered to the cervix in 8.8% of cases (unfavourable anatomy or patient refusal). Spinal anaesthetic was performed for the majority of insertions. No patients tested positive for COVID-19 during RT/CCRT and/or required alteration to the usual treatment pathway following prior infection. Conclusion Other than immediately adopting spinal anaesthesia for brachytherapy, the advent of a novel virus threat did not result in deviation to standard CCRT protocol. There was no effect on diagnostic imaging rates, dose-fractionation, concomitant cisplatin, or overall treatment times.

2022-RA-721-ESGO CLINICAL OUTCOMES OF SBRT BOOST TO THE CERVIX AS AN ALTERNATIVE TO INTRACAVITARY BRACHYTHERAPY IN LOCALLY ADVANCED CERVICAL CANCER: RETROSPECTIVE ANALYSIS FROM THE WEST OF SCOTLAND

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Introduction/Background Concurrent chemoradiotherapy (CCRT) combined with image guided brachytherapy (BGT) is the international gold standard management for locally advanced cervical cancer. ESTRO guidelines recommend aiming for EQD2 of 85–90Gy to the cervix, in order to achieve local control rate of >90%. Associated G3–5 morbidity is up to 5–10%, with fistula incidence <5%. However, a proportion of patients are ineligible for BGT and a standard photon boost is suboptimal. We evaluated the indications for SBRT boost at our institution and the resultant local control/toxicity outcomes.

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Methodology The central radiotherapy prescribing system at a single institution was interrogated to identify patients with locally advanced cervical cancer who received SBRT boost to cervix in addition to or as a replacement for IBGT, from 1st July 2017 to 31st January 2021. Results 17 patients were identified; median age was 68 years (range 32–77) and median follow up was 17 months. FIGO 2009 stage distribution was II (8/17), III (7/17), and IV (2/17). Mean tumour size was 4.5 cm. Indication for SBRT consisted of: medical contra-indication (9/17), unfavourable anatomy (5/17), and patient refusal (3/17). Median dose of external beam was 45 Gy in 25 fractions (range 43–50Gy). SBRT boost PTV was delineated on CT (cervix and gross residual disease with a 4–5 mm margin), aiming for 24–28 Gy in 4 fractions (range 7–28Gy). Median cumulative EQD2 (α/β= 10) was 75.2 Gy (range 58–91), and median SBRT PTV size was 54 cm³ (range 12–126). Local control rate was 15/17 (88.2%). G3 toxicity occurred in 2/17 (11.8%); one rectovaginal and one vesico-vaginal fistula (the latter had progressive disease). No G4–5 toxicity was reported. Conclusion SBRT boost was effective and tolerable in this cohort, but EQD2 of 85–90 Gy was not achieved in majority of cases. MRI based planning may improve target delineation and a consensus guideline on appropriate constraints would be advantageous.

Introduction/Background Objective to analyze the effect of pelvic floor muscle strengthening exercises on urinary incontinence in patients with cervical cancer. Methodology This study included 45 cervical cancer patients undergoing radiation therapy by using non-probability -convenience sampling technique and design as quasi-experimental one-group pre-post design. Intervention- consisted of four pelvic floor exercises. The patient was assessed for urinary incontinence by using the ICIQ UI-SF tool and perineometer on the 8th and 12th weeks. The statistical evaluation plan was the demographic and clinical data summarized with descriptive statistics and primary objectives evaluated with Friedman test, one-way ANOVA test and secondary objectives were evaluated with frequency distribution and chi-square test.

Results In this study 45 women received the intervention. The result showed the frequency, quantity of urinary incontinence significantly reduced from the patient’s baseline parameters. Participant’s ICIQ UI-SF total score was observed that on pre-test mean 12.56 (SD±3.74), 8 weeks of intervention mean 11.33 (SD±3.48) and 12 weeks of intervention mean 8.86 (SD±2.97) and P-value was statistically significant (p <0.001). There was a significant (P <0.001) improvement in the quality of life of participants. The research hypothesis was accepted. There was significant (p <0.001) alleviation in urinary incontinence after pelvic floor muscle strengthening exercises in a patient with cervical cancer undergoing radiation therapy. The pelvic floor muscle contractility on perineometer on pre-intervention mean was 21.63 (SD±2.71), on post-intervention 8 weeks mean was 22.33 (SD±2.65) and 12 weeks mean was 23.49 (SD±2.16). The pelvic floor muscle strengthening exercises were statistically significant (p <0.001).

Conclusion Pelvic floor muscle strengthening exercises were effective for alleviating urinary incontinence which improved the quality of life of patients with cervical cancer undergoing radiation therapy. It is a statistically significant intervention.