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48 **A LOCAL STUDY ON SURVIVAL OUTCOME AND PROGNOSTIC SIGNIFICANCE OF LOWER UTERINE SEGMENT INVOLVEMENT IN EARLY STAGE ENDOMETRIOID ENDOMETRIAL CARCINOMA**

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Majority of endometrial cancer patients present with early - stage disease and generally carries an overall good prognosis. Treatment typically consists of surgery and the need for adjuvant therapy is based primarily on the stage of the disease and other prognostic factors. Lower uterine segment (LUS) involvement though not currently included in the FIGO staging for endometrial cancer and prognostic factors for adjuvant treatment, may play a role in the management of early stage endometrial cancer.

The aim of the study is to investigate the overall survival (OS) and recurrence free survival (RFS) of early stage endometrioid endometrial cancer (EEC) with LUS involvement and to detect its association with other prognostic factors.

This is a retrospective study which included patients diagnosed with stage I EEC who underwent surgical staging at a single institution from January 2004 – December 2014. The 5 year OS and RFS of patients with or without LUS involvement were documented and analyzed. Of the 142 cases, 36 (25.4%) had LUS involvement. The 5 year OS of patients with positive and negative LUS involvement were significantly different at 83.8% and 95.4% respectively (p value = 0.039). There was no significant difference in their RFS at 87.5% and 87.8% respectively (p value = 0.807). LUS involvement was significantly associated with deeper myometrial invasion, presence of lymphovascular space invasion and larger tumor size of equal to or greater than 2 cm. LUS involvement warrants consideration when deciding upon surgical staging and giving adjuvant treatment in patients with stage I EEC.

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49 **2D ICRU-BASED VS 3D IMAGE-GUIDED PLANNING IN HIGH DOSE RATE BRACHYTHERAPY FOR CERVICAL CANCER – A STUDY ON EFFICACY AND TREATMENT-RELATED TOXICITIES**

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Introduction Treatment paradigms for locally-advanced cervical cancer have shifted from the use of 2D-brachytherapy (2D-BT) to that of 3D-image-guided brachytherapy (3D-IGBT), with the goal of delivering doses more precisely to clinical targets while sparing organs-at-risk. In this retrospective study, we aimed to report our institution's experience with 3D-IGBT for the treatment of cervical cancer.

Methods Patients with cervical cancer who received chemoradiation between February 2004 and August 2019 were included. Patient data was retrospectively collected until December 2019.

99 patients were treated with 2D-BT and 49 with 3D-IGBT. Treatment-related toxicities (CTCAE v4.0), recurrence-free-survival (RFS) and overall survival (OS) are reported.

Results Median follow-up was 30.4 months (3–170 months). There was no difference in the number of acute toxicities (OR 1.23[0.62–2.46]). There was a significant reduction in combined late toxicities for the 3D-IGBT group (OR 0.24 [0.11–0.56]) and specifically for late gastrointestinal toxicities (OR 0.27[0.09–0.86]). Although not significant (NS), acute hematological toxicities were more common in the 3D-IGBT group (OR 2.53[0.94–6.80]) but resolved with time (OR 0.74 [0.07–7.90]). The rate of grade ≥ 3 toxicities was very low (2D-BT: 1.5% acute, 2.7% late; 3D-IGBT: 1.0% acute, 0.7% late; NS). RFS (HR 1.41[0.51–3.88], p=0.46), and OS (HR 0.46[0.15–1.39], p=0.63) were not statistically different.

Conclusion Our study showed that 3D-IGBT for the treatment of cervical cancer is associated with a decrease in the rate and grade of late toxicities, specifically late gastrointestinal toxicity. The rate of grade ≥ 3 toxicity was also low in both groups, making of 3D-IGBT a safe treatment approach for cervical cancer.

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50 **DISPROPORTIONATE INCIDENCE OF NEUROENDOCRINE CERVICAL CANCER IN MINORITY POPULATIONS – A STUDY OF 2,046 PATIENTS**

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Objectives To determine the incidence of Neuroendocrine Cervical Cancer (NEC) in regards to age, race and stage at presentation.

Methods From 2001 to 2016, incidence rates of cervical cancer were calculated from United States Cancer Statistics with Surveillance, Epidemiology and End Results (SEER) Program. SEER*-Stat and Joinpoint regression were used to calculate the incidence rate (per 100,000 women) and average annual percent change (AAPC), adjusted for hysterectomy and pregnancy prevalence data from the Behavioral Risk Factor Surveillance System.

Results Between 2001–2016, Neuroendocrine Carcinoma of the cervix (NEC) was identified in 2,046 (1%) patients of 200,000 women with cervical cancer; of which, 1,300 were White (63.5%), 332 Blacks (16.2%), 267 Hispanics (13.0%), and 35 Asians (5.9%) and 26 unidentified (1.3%). For all races, age-adjusted incidence of NEC increased from 0.067 per 100,000 women in 2001 to 0.091 in 2016. Age-adjusted incidence was higher in minority populations compared to Whites (Blacks 0.11; Asians 0.092; Hispanics 0.086; Whites 0.075 per 100,000). The incidence of NEC increased with age in both Hispanics and Blacks. The peaks in incidence for Blacks was significantly older at 80+yo (0.35 per 100,000) compared to 60–64yo for Hispanics (0.2) and 35–39yo (0.14) for Whites. Compared to Squamous Cell Carcinoma, NEC patients were more likely to have distant disease at diagnosis (37.4% vs. 12.5%) and less localized disease (22.3% vs. 43.2%) after adjusting for race and age.