



Abstract EP074/#1447 Figure 1

negative), regrouped cohort A (all node positive cases with FIGO stage IA2 to IIB), IIIA and IIIB patients, respectively ( $P < 0.001$ ).

**Conclusion/Implications** The prognosis of early-stage cervical cancer with nodal metastases is significantly better than that of stage IIIA and worse than IIB. The findings support to stratify these patients into a new substage IIC in FIGO staging system.

EP075/#462

#### RADIATION QUALITY AND WORKFLOW IN NRG GY017: ANTI PD-L1 (ATEZOLIZUMAB) AS AN IMMUNE PRIMER OR CONCURRENTLY WITH RT FOR NODE POSITIVE LOCALLY ADVANCED CERVICAL CANCER

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**Introduction** Advances in RT planning enhance the need for uniform quality oversight on clinical trials. NRG GY-17 was a randomized trial of the anti PD-L1 antibody, atezolizumab, before and concurrent (Arm A) or concurrent with CRT (Arm B). We describe the prospectively collected pre-treatment RT quality and workflow.

**Methods** 40 patients were consented; 36 patients with locally advanced, LN+ cervical cancer were randomized. IMRT contouring guidelines and dose specifics were outlined in the

protocol with deviations specified as per protocol and major. Each site had to pass a rigorous IMRT credentialing process. Sites were required to submit a pre-treatment IMRT plan for physician expert contour target and organ at risk review in a rapid pre-treatment manner. The expert physician then scored the contours and plan as per protocol or as a major deviation. For major deviations the sites were required to revise and resubmit the plans which were then re-reviewed prior to protocol start.

**Results** The median follow-up time was 20 months. 37 participants had central review of the pre-treatment EBRT plan. 13 plans (35%) were scored as a major deviation requiring revision: 11 due to contours (5 bowel and 6 LN) and 2 due to incorrect expansion/dose. The major deviation plans were resubmitted and passed; 2 required revisions for a total of 3 plans.

**Conclusion/Implications** Our data indicate that 35% of the submitted advanced technology IMRT plans required revision and resubmission in order to meet per protocol standards. Pre-treatment plan review is an important quality measure for cervical cancer clinical trials.

EP077/#1445

#### THE HPV E4 IS A CANDIDATE BIOMARKER IN CERVICAL INTRAEPITHELIAL NEOPLASIA GRADE 2

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**Introduction** HPV E4 protein is synthesized as a E1<sup>^</sup>E4 fusion protein as a result of mRNA splicing. The knowledge regarding the functions of E1<sup>^</sup>E4 during the viral life cycle remains incomplete. It is safe to suggest that the protein is involved in virus release and transmission and that it is a marker of the onset of productive infection. However, the potential role of E4 as a tool to stratify cervical intraepithelial

neoplasia (CIN), and to detect HPV-associated lesions that may progress towards CIN2+, has been reported in multiple publications recently. The management of CIN2 is still controversial, prompting us to investigate the correlation between E4 expression and prognosis of lesions classified as CIN2.

**Methods** We carried out a retrospective cohort study using the medical and histopathological records of 115 patients with CIN2 treated. E4 was detected as described previously (Griffin et al., 2015). Regression was defined as negative cytological and histological result for more than one year. Progression was defined as the appearance of histologically confirmed CIN3 during follow-up. We built Kaplan-Meier curves for progression/regression groups and compared unadjusted survival statistics using Log-rank test.

**Results** The cases were 28, 67, and 20 for regression, persistence, and progression, respectively. Kaplan-Meier curves showed that E4 expression was significantly difference between progression and regression (Log-rank test= $p<0.001$ ). CIN2 progressed in the E4 negative cases and regressed in the E4 positive cases.

**Conclusion/Implications** The E4 expression was correlated with progression/regression of CIN2. These data suggest that the HPV E4 expression is a candidate biomarker for prognosis of CIN2.

EP078/#759

#### THE INFLUENCE OF DEMOGRAPHIC AND CLINICAL FEATURES ON THE RECEIPT OF RADIOTHERAPY FOR WOMEN WITH CARCINOMA OF THE CERVIX IN GHANA

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**Introduction** Cervical cancer is a significant public health issue in Ghana. Most cases of the disease are diagnosed at an advanced stage where radiotherapy treatment will be required. We evaluated how demographic and clinical features of women with invasive cervical cancer influenced the receipt of radiotherapy in two large referral hospitals in Ghana.

**Methods** We conducted a retrospective study of 1,725 women diagnosed with invasive cervical cancer between 1<sup>st</sup> January 2010 and 31<sup>st</sup> December 2013. Multivariable logistic regression was used to evaluate the odds of receiving radiotherapy by patient demographic and clinical features associated with financial barriers to care.

**Results** Women who lived in other African countries but receiving treatment at one of the two centers in Ghana were more likely to receive radiotherapy compared with women who lived in a metropolis in Ghana (unadjusted OR: 4.1; 95% CI: 2.5–6.9). Additionally, women living in a semi-urban region of residence were more likely to receive radiotherapy compared with those living in a metropolis (unadjusted OR: 2.4; 95% CI: 1.6–3.5). Women less likely to receive

radiotherapy tended to have three or more comorbidities (unadjusted OR: 0.2; 95% CI: 0.1–0.5), be recruited at the gynecology unit (unadjusted OR: 0.01; 95% CI: 0.002–0.01) and not have cancer histologically confirmed (unadjusted OR: 0.004; 95% CI: 0.002–0.01).

**Conclusion/Implications** Conclusion: Women from other African countries may be fee-paying for radiotherapy treatment as opposed to being refugees. There are opportunities to improve the outcome for women with cervical cancer in Ghana by reducing financial barriers to access for radiation therapy.

EP079/#533

#### THE PREVALENCE AND DISTRIBUTION PATTERN OF CERVICAL HIGH-RISK HPV GENOTYPE INFECTIONS AMONG WOMEN WITH HIGH-GRADE PRE-INVASIVE AND INVASIVE CERVICAL CANCER IN LAGOS, NIGERIA

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**Introduction** High-risk HPV (hr-HPV) has been identified as the key etiology in the development of high-grade pre-invasive and invasive cervical cancer (CIN2+/ICC). However, little is known about the distribution of cervical hr-HPV genotypes associated with CIN2+/ICC in Lagos, Nigeria. We sought to investigate the hr-HPV genotypes responsible for CIN2+/ICC in Lagos, Nigeria.

**Methods** The study was conducted as part of the Nigeria U54 study. DNA extract was obtained from cervical tissues obtained from women with confirmed CIN2+/ICC. Anyplex II HPV HR detection kit was used to detect the presence of 14 hr-HPV genotypes. Genotype-specific prevalence rates were computed and pattern of infection described.

**Results** The overall prevalence of hr-HPV infection was 91.1%. Hr-HPV 16, 18, 35, and 51 were the most common genotypes isolated with genotype-specific prevalence rates of 50.0%, 33.3%, 12.2%, and 7.8% respectively. Hr-HPV 39 (0.0%), 31 (1.1%), 68 (1.1%), 56 (2.2%) & 66 (2.2%) were the least prevalent genotypes. The prevalence of single and multiple hr-HPV infections were 55.6% and 35.6% respectively. 27.8% had dual hr-HPV infections, while 7.8% had  $\geq 3$  hr-HPV infections. Hr-HPV 16, 18, and 35 were the most prevalent genotypes seen in single (23.3%, 14.4% & 5.6% respectively) and multiple infections (26.7%, 18.9% & 6.7% respectively). Though the presence of hr-HPV 16 & 18 was associated with having multiple hr-HPV infections, it was not predictive of having it on multivariable analysis ( $P>0.05$ ).

**Conclusion/Implications** Hr-HPV 16/18 remained a major cause of CIN2+/ICC, however, more attention needs to be given to hr-HPV 35 as an important cause of CIN2+/ICC.