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**Conclusions:** Lactation is associated with multiple cardio-protective measures in the early postpartum. Associations between oxytocin, cell adhesion molecules expression and FMD suggest lactation may inhibit atherogenic activity during the perinatal transition, which may be a critical period of elevated CVD risk.

#### P85. Effects of Lactation on Maternal Mediators of Vascular Inflammation and Cardiovascular Disease

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**Background:** Mothers who do not breastfeed and those who wean early are at increased risk of cardiovascular disease (CVD) compared with those who practice exclusive and/or prolonged lactation. Inflammation plays a causal role in CVD. Early postpartum is a high pro-inflammatory state, however epidemiological studies suggest that lactation is cardio-protective.

**Objective(s):** Determine effects of lactation on cardiovascular activity and biomarkers of systemic (C-reactive protein) and vascular inflammation (sV-CAM, sP-Selectin, sE-Selectin).

**Material/Methods:** 68 mothers were tested at 3 months postpartum (33 exclusive breast-feeders, 10 exclusive formula-feeders, 25 supplemented lactation with formula). Cumulative breastfeeding intensity (cBFI) was calculated for the first 12 weeks. We assayed plasma oxytocin, C-reactive protein (CRP) and soluble cell adhesion molecules (E-Selectin, P-Selectin, ICAM1, VCAM1). A subset of 15 mothers (8 Exclusive Breast, 7 Exclusive Formula) underwent fasting flow-mediated dilation (FMD) of brachial artery to assess endothelial function.

**Results:** Exclusive Breastfeeders had: lower CRP compared with low cBFI and Exclusive Formula groups ( $F=3.67$ ,  $p<.05$ ); lower sE-Selectin relative to all other groups ( $F=7.42$ ,  $p<.0001$ ). Oxytocin was inversely related to sE-Selectin ( $r=-.29$ ,  $p<.05$ ) and sP-Selectin ( $r=-.38$ ,  $p<.02$ ). cBFI was negatively correlated with CRP ( $r=-.39$ ,  $p<.01$ ), sE-Selectin ( $r=-.49$ ,  $p<.0001$ ), BMI ( $r=-.51$ ,  $p<.001$ ) and waist circumference ( $r=-.59$ ,  $p<.0001$ ). Relative to Exclusive Breastfeeders, Exclusive Formula-feeders demonstrated higher resting SBP ( $p<.005$ ) and DBP ( $p<.05$ ), and non-significantly lower FMD response, adjusted for age, BMI, race and resting SBP. Endothelial function was inversely related to sVCAM expression ( $r=-.50$ ,  $p=.05$ ).

**Conclusions:** Lactation appears to play multiple roles in protecting cardio-metabolic function in early postpartum. Links between oxytocin, cell adhesion molecules expression and FMD suggest lactation may inhibit atherogenic activity during the perinatal transition, which may be a critical time of elevated risk for CVD.

#### P86. Phototherapy 660 nm for the Prevention of Radiodermatitis in Breast Cancer Patients Receiving Radiation Therapy: Preliminary Results of a Randomized Controlled Trial

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**Background:** Approximately 90% of breast cancer patients undergoing adjuvant radiotherapy develop acute skin reactions. Despite several studies have addressed this adverse event, an effective prophylactic approach remains unavailable.

**Objective(s):** The aims of this study are to assess whether InGaAlP operated at 660nm can minimize the occurrence of radiodermatitis and to decrease the pain due to radiodermatitis.

**Material/Methods:** The calculated sample size for this trial is 52 patients. Here we present preliminary results from 19 patients. Patients undergoing radiotherapy for breast cancer (stages I to III) were prospectively enrolled. Patients were randomly allocated to a group who received laser therapy ( $n=10$ ) or to a control group who received a placebo (the same procedure were performed without activation of the laser,  $n=9$ ). Both procedures were applied five days a week, before the radiotherapy session. A nurse, a radiotherapist, and an oncologist, all of them blinded, assessed patients weekly regarding radiodermatitis, by means of CTC 4.0 and RTOG criteria, until the end of treatment. Patients also answered a modified visual analogue scale for pain. The same procedures were repeated 90 days after the beginning of radiotherapy. ClinicalTrials.gov identifier: <http://NCT02003599>.

**Results:** Patients in both groups were matched for the main clinical and oncologic variables. Three patients in Laser Group and two patients in Placebo Group developed radiodermatitis  $\geq 2$  ( $p=0.608$ ). With regard to pain, the average scores were 2.9 in Laser Group and 3.3 in placebo group ( $p=0.835$ ).

**Conclusions:** These preliminary results suggest that the laser was not effective in reducing radiodermatitis  $\geq 2$  or in reducing pain.

#### P87. HPV Specific Immunotherapy for Cervical Intraepithelial Neoplasia using VGX-3100 Induces Regression of Cervical Lesions and Potent T-cell Responses: Results from a Randomized, Double-Blind, Placebo-Controlled Phase II Study

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**Background:** The advent of an immunotherapy that imparts a significant impact on the clinical status of advanced cervical intraepithelial neoplasia (CIN) has the potential to provide physicians an important alternative to surgery to treat CIN 2/3 disease. Our previous two Phase I studies of VGX-3100, a highly optimized DNA immunotherapy for HPV16/18 delivered using electroporation, drove seroconversion as gauged by ELISA to at least one HPV antigen (E6 or E7) in 100% of patients while 78% of patients mounted a detectable Interferon Gamma (IFN $\gamma$ ) ELISpot response. Flow cytometric analysis revealed IFN $\gamma$  production from both the CD4+ and CD8+ T cell subsets, as well as the ability of patient CD8+ T cells to synthesize the lytic proteins Granzyme B and Perforin. Moreover, all patients showed the presence of CD8 T cells exhibiting full HPV-specific cytolytic functionality, a readout thought to be informative of the ability of VGX-3100 to induce an immune response that may be important for the direct elimination of HPV infected cells.

**Objective(s):** The Phase II study, designated HPV-003, assessed the safety and efficacy of VGX-3100 in 167 women with biopsy-proven CIN 2 or CIN 3 with concurrent HPV16 and/or HPV18 infection.

**Material/Methods:** The randomized, placebo-controlled, double-blind study, was stratified by age and severity of CIN and evaluated cervical tissue changes after three 6 mg intramuscular doses of VGX-3100 followed by electroporation (EP) with Inovio's CELLECTRA® 2000 device at weeks 0, 4, and 12. Cervical tissue was examined before starting blinded treatment and 9 months later.

**Results:** The study met its primary efficacy endpoint; the percentage of patients who had regression of CIN 2 or CIN 3 to CIN 1 or no disease at 6 months post third dose was significantly higher in the VGX-3100 group compared to the placebo group ( $p=0.017$ ). In addition, the trial demonstrated the ability of VGX-3100 clear HPV infection concurrent with regression of CIN lesions. The study also explored cell mediated immune responses to VGX-3100 in blood samples taken prior to the first vaccine dose and periodically thereafter. IFN- $\gamma$  ELISpot results revealed higher responses in the VGX-3100 treated group than in the placebo group, suggesting that VGX-3100 was able to robustly engage the cellular arm of the patients' immune system. Finally, subjects were monitored for tolerability and safety. The treatment was generally well-tolerated, with only administration site redness occurring significantly more frequently in the VGX-3100 group compared to the placebo group in the 7- and 28-day periods following treatment.

**Conclusions:** Altogether, the successful phase 2 results represent a significant milestone in the development of active immunotherapies to treat cancer and infectious diseases and have the potential to provide physicians an important alternative to surgery to treat CIN 2/3 disease. They illustrate the highly promising potential of therapeutic immunization with DNA followed by electroporation for the treatment of HPV-related precancerous cervical disease in women and present the possibility of treating HPV-associated cervical, head and neck, and anogenital cancers.

#### **P88. Assessment of Quality of Antenatal Care Rendered at a Northern Nigeria Primary Health Care Center, Zaria**

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**Background:** Primary health care centers closest to community, they provide first aid care and referrals. Offering quality An-

tenatal care services at this level is pre-requisite to reducing pregnancy complications. Reports have shown that Eclampsia is the leading cause Maternal Mortality in Northern Nigeria. Ensuring quality care by skilled attendants during pregnancy is essential

**Objective(s):** This study was aimed at assessing the adequacy of the antenatal care rendered at this level of a care center.

**Material/Methods:** A cross sectional study was conducted at Babban-dodo primary health center Zaria. Questionnaires were administered to 400 pregnant women and providers. Information on their socio-economic status, educational level, salary scale, geographical accessibility, affordability and availability of the care and provider's qualification and years of experience were analyzed using SPSS version 18.

**Results:** Despite the availability, accessibility and affordability of services at the health center only 37.5% these women had their blood pressure measure routinely. The services were not liked by 2% of the respondents. Forty-six (46%) percent were satisfied while 22.5% were highly satisfied. Those that were just satisfied were 22% although none of the respondent was highly dissatisfied. There was only one nurse and no medical doctor neither on a temporary nor on visiting bases. The structure is situated in the center of the town and well attended.

**Conclusions:** There is total disregard for standard of care for antenatal services expected at this level. Routine examination, sure as Blood Pressure measurement was not done. The nurse was experienced and qualified been alone means when she is not available these pregnant women are not seen. There is therefore the need for re-assessment of all primary health care centre been the first point of contact with our pregnant women, if reducing maternal mortality rate is great concern to all of us.

#### **P89. Vitamin D Deficiency in Pregnant Women Refer Two Private Office of Gynecologists in Rasht, Iran**

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**Background:** Vitamin D is a key modulator of calcium metabolism that an important role for maternal health, fetal skeletal growth, and optimal maternal and fetal outcomes in pregnancy. Vitamin D deficiency is one of the major health problems with very high prevalence in worldwide.

**Objective(s):** This study was conducted to determine the vitamin D status of pregnant women in Rasht, north of Iran.

**Material/Methods:** In a retrospective cross-sectional study, all pregnant women in any gestational age without history of vitamin D supplement use before three month ago of pregnancy from two private offices of gynecologists in Rasht were studied from spring 2013 till summer 2014. All data were collected which one recorded and blood sampling was done to measure serum 25 (OH) vitamins D. Vitamin D deficiency and insufficiency defined as levels of 25 (OH) D < 20 and < 30 ng/ml for