

Duke Cardio-Oncology

news

A joint publication of the Duke Cancer Institute
and the Duke Division of Cardiology

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Welcome to the latest issue of the cardio-oncology newsletter

The purpose of these newsletters is to bring you the latest scientific findings that support the connection between cardiology and cancer care. In the past, clinicians and scientists have treated these diseases separately. More recent evidence suggests that the conditions are linked in subtle and important ways.

We are solidifying Duke's vision in this area by hosting the [First Annual Cardio-Oncology Symposium on March 5](#). Join us to hear cardiology and oncology

experts address this state-of-the-science field. Duke is leading the way in this area. Keep reading to learn about the newest findings in cardio-oncology.

We hope to see you at the Symposium!



Establishing cardio-oncology programs: thoughts from the experts

In a recent article, Drs. Okwuosa and Barac outlined challenges and opportunities for early career cardiologists and faculty directors in establishing a cardio-oncology program. Institutional support is paramount to achieving success. Creating awareness is one of the first critical steps, and education



is key. Education can be in the form of lectures, ground rounds, symposia, or seminars, and should be directed to hospital staff, including nurses, physician extenders, trainees, and any caregivers who will be treating patients with cancer with, or at risk of, cardiovascular disease.

Patients' education is equally important and should be provided to all cancer patients to inform them of the potential effect on their cancer therapy. Creation of a cardio-oncology clinic is another key determinant for a successful cardio-oncology program, and

close collaboration between cardiologists and oncologists is a must. Research is fundamental to fostering recognition and growth of the program. The American College of Cardiology (ACC) has recently formed the ACC Cardio-Oncology Member Section to serve as a professional home for the increasing number of specialists in the field.

Tochi M. Okwuosa, Ana Barac. Burgeoning Cardio-Oncology Programs Challenges and Opportunities for Early Career Cardiologists/Faculty Directors. [JACC 2015, 66 \(10\) 1193-7](#)

Can cancer itself damage the heart?

Research presented in early December at EuroEcho-Imaging 2015 raised the possibility that cancer itself may damage heart muscle irrespective of exposure to cancer drug therapies. Dr. Venneri and colleagues from the cardio-oncology clinic at Royal Brompton Hospital in London sought to

determine if untreated cancer patients with normal ejection fraction (EF \geq 55%) had reduced strain measurement. Comparing myocardial strain in 3 groups of cancer patients (43 patients previously or currently treated, 36 untreated and 20 healthy volunteers) they found that both

treated and untreated cancer patients had impaired heart function.

Subclinical myocardial dysfunction in cancer patients: is there a direct effect of tumour growth? [Poster session 3: Tissue Doppler and speckle tracking on 3 December at 14:00 to 18:00 CET](#)

Prevention of cardiac dysfunction during adjuvant breast cancer therapy: primary results of the PRADA study

At the recent American Heart Association Scientific Sessions in Orlando, Dr. Gulati from Akershus University Hospital in Lorenskog, Norway, presented the PRADA study. PRADA was a randomized, placebo-controlled, double-blind clinical trial evaluating the cardioprotective effect of metoprolol succinate (100 mg/daily) and/or candesartan cilexetil (32 mg/daily) vs. placebo administered in parallel with adjuvant anti-cancer therapy in 126 women (mean age 50.7 years) with early breast cancer and no serious concomitant illness. The primary endpoint of the study was change in left ventricular ejection fraction (LVEF) as determined by cardiac magnetic resonance imaging (MRI) from baseline to the completion of adjuvant therapy.

In the intention-to-treat analysis, the overall decline in LVEF was 2.6 percentage points (95% confidence interval 1.5–3.8) in the placebo group and 0.8 (-0.4–1.9)

in the candesartan group ($p=0.026$ for between-group-difference). In the per-protocol analysis the decline was 2.6 (1.4–3.8) percentage points in the placebo group and 0.6 (-0.6–1.8) in the candesartan group ($p=0.021$ for between-group-difference). No effect of metoprolol on the change in LVEF was observed. Dr. Gulati and colleagues concluded that in early breast cancer, patients who receive adjuvant treatment containing anthracyclines with or without trastuzumab and radiation, left ventricular ejection fraction was not improved by the addition of the beta-blocker metoprolol, but was improved with the addition of the angiotensin receptor blocker candesartan.

Abstract: http://my.americanheart.org/idc/groups/ahamah-public/@wcm/@sop/@scon/documents/downloadable/ucm_478895.pdf



Androgen-deprivation therapy and risk in men with advanced prostate cancer

Androgen-deprivation therapy (ADT) is a mainstay in the treatment for prostate cancer and has shown a survival benefit in men with advanced forms of the disease. However, evidence from observational studies has suggested that even short-term ADT treatment may be linked with an increased chance of developing cardiovascular risk factors such as dyslipidemia and increased insulin resistance, and with increased risk of cardiovascular (CV) outcomes including mortality.

Other studies exploring the effect of different durations of ADT exposure on CV outcomes have not confirmed these findings. Differences in patients' characteristics, cancer status,

and baseline CV risk factors make comparison across studies very difficult. A non-standardized approach in the collection of CV risk factors and CV events makes interpretation of the results from different studies even harder.

A Multi-Center, Randomized, Assessor-Blind, Controlled Trial Comparing the Occurrence of Major Adverse Cardiovascular Events (MACEs) in Patients with Prostate Cancer and Cardiovascular Disease Receiving a GnRH antagonist (Degarelix) or a GnRH agonist (Leuprolide) will start enrolling soon. The primary objective is to demonstrate that degarelix can reduce the risk of major adverse cardiovascular events (a composite of death

due to any cause, non-fatal myocardial infarction, non-fatal stroke, or non-fatal unstable angina requiring hospitalization) as compared to leuprolide in patients with prostate cancer and concomitant cardiovascular disease. The trial will be led by Matthew T. Roe from the Duke Clinical Research Institute and Dr. Howard Scher from Memorial Sloan Kettering Cancer Center.

D'Amico AV, Manola J, Loffredo M, Renshaw AA, DellaCroce A, Kantoff PW. 6-Month androgen suppression plus radiation therapy vs radiation therapy alone for patients with clinically localized prostate cancer: a randomized controlled trial. [JAMA 2004;292:821-7.](#)

Yannucci J, Manola J, Garnick MB, Bhat G, Bubley GJ. The effect of androgen deprivation therapy on fasting serum lipid and glucose parameters. [J Urol 2006;176:520-5.](#)

Bolla M, de Reijke TM, Van Tienhoven G, et al. EORTC Radiation Oncology Group and Genito-Urinary Tract Cancer Group. Duration of androgen suppression in the treatment of prostate cancer. [N Engl J Med 2009;360:2516-27.](#)



Recent publications

Tochi M. Okwuosa, Ana Barac. Burgeoning Cardio-Oncology Programs Challenges and Opportunities for Early Career Cardiologists/Faculty Directors. [JACC 2015, 66 \(10\) 119 3–7](#)

Weijuan Li, MD, MS, Kevin Croce, MD, PHD, David P. Steensma, MD, David F. McDermott, MD, Ori Ben-Yehuda, MD, Javid Moslehi. Vascular and Metabolic Implications of Novel Targeted Cancer Therapies Focus on Kinase Inhibitors. [JACC 2015:1160–7](#)

Michel G Khouri, Michael R Klein, Eric J Velazquez, Lee W Jones. Current and emerging modalities for detection of cardiotoxicity in cardio-oncology. *Future Cardiol.* (2015) 11(4), 471–484

Omar Abdel-Rahman, Hesham ElHalawani, Hoda Ahmed. Risk of Selected Cardiovascular Toxicities in Patients With Cancer Treated With MEK Inhibitors: [A Comparative Systematic Review and Meta-Analysis](#)

Lee W. Jones. Precision Oncology Framework for Investigation of

Exercise As Treatment for Cancer. *Journal of Clinical Oncology*, Vol 33, No 35 (December 10), 2015: [pp 4134–4137](#)

Euro-ECHO Seville, Spain Dec 2015. [Abstract: P747](#). L Venneri, F Calicchio, R Manivarmane, N Pareek, J Baksi, S Rosen, R Senior, AR Lyon, RS Khattar, Royal Brompton Hospital London United Kingdom. Subclinical myocardial dysfunction in cancer patients: is there a direct effect of tumour growth?

Lyon AR. Disparate worlds drawing closer together: cardiovascular biomarkers predict cancer outcomes in treatment naïve patients. [Heart 2015;101:1853–1854](#)

Pavo N, Raderer M, Hülsmann M, et al. Cardiovascular biomarkers in patients with cancer and their association with all-cause mortality. [Heart 2015;101:1874–1880](#)

Ascertainment, classification, and impact of neoplasm detection during prolonged treatment with

dual antiplatelet therapy with prasugrel vs. clopidogrel following acute coronary syndrome. Roe MT, Cyr DD, Eckart D, Schulte PJ, Morse MA, Blackwell KL, Ready NE, Zafar SY, Beaven AW, Strickler JH, Onken JE, Winters KJ, Houterloot L, Zamoryakhin D, Wiviott SD, White HD, Prabhakaran D, Fox KA, Armstrong PW, Ohman EM; TRILOGY ACS Investigators. *Eur Heart J.* 2015 Dec 5. pii: ehv611. [\[Epub ahead of print\]](#)



Registration is open

Duke Cardio-Oncology Symposium: March 5

Registration is now open for the Inaugural [Duke Cardio-Oncology Symposium: Improving Cancer Outcomes and Optimizing CV Health](#) on March 5, 2016.

The morning will be dedicated to discussing CV issues in the contemporary management of cancer patients and the incidence of CV disease in cancer survivors. Dr. Susan Dent, our oncology keynote speaker, will discuss the importance of the collaboration between oncologists and cardiologists to improve care for cancer patients.

The afternoon session will focus on Cancer/CV links: Myeloma and Amyloid. Dr. Greg Hundley, our

cardiology guest speaker, will be reviewing the strategies for early detection of CV toxicity.

We look forward to seeing many of you. **[Register now](#)** to save your seat!



Useful links

A recently founded open access, online journal: [Cardio-Oncology](#)

[The International CardiOncology Society, North America](#)

[CardioOnc.org](#), a website designed to provide patients, clinical providers, and research scientists a central and accessible resource focused on the link between cancer and cardiovascular disease

A [Cancer and the Heart lecture series](#) by MD Anderson on the practice of onco-cardiology, discussing important topics relevant to cancer patients with heart disease and cardiotoxicity



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