1. Association of Preterm Birth With Myocardial Fibrosis and Diastolic Dysfunction in Young Adulthood

BACKGROUND

Preterm birth affects about 10% of live births worldwide and is associated with cardiac alterations. Animal models of preterm birth suggest that left ventricular functional impairment may be due to an up-regulation of myocardial fibrosis.

OBJECTIVES

The aim of this study was to determine whether diffuse left ventricular fibrosis is evident in young adults born preterm.

METHODS

One hundred one normotensive young adults born preterm (n = 47, mean gestational age 32.8 ± 3.2 weeks) and term (n = 54) were included from YACHT (Young Adult Cardiovascular Health sTudy). Left ventricular structure and function were quantified by cardiovascular magnetic resonance and echocardiography. Intravenous administration of a gadolinium-based contrast agent during cardiovascular magnetic resonance was used to quantify focal myocardial fibrosis on the basis of late gadolinium enhancement and, in combination with T1 mapping, to quantify diffuse myocardial fibrosis on the basis of assessment of myocardial extracellular volume fraction.

RESULTS

Adults born preterm had smaller left ventricular end-diastolic and stroke volumes, with greater left ventricular mass and wall thickness (P < 0.001). In addition, longitudinal peak systolic strain and diastolic strain rate by both cardiovascular magnetic resonance and echocardiography, and E/A ratio measured by echocardiography, were lower in preterm-born compared to term-born adults (P < 0.05). Extracellular volume fraction was greater in preterm-born compared with term-born adults (27.81% ± 1.69% vs 25.48% ± 1.41%; P < 0.001) and was a significant mediator in the relationship between gestational age and both longitudinal peak diastolic strain rate and E/A ratio.

CONCLUSIONS

Preterm-born young adults have greater extracellular volume fraction in the left ventricle that is inversely related with gestational age and may underlie their diastolic functional impairments.
In 2020, the American Heart Association highlighted structural racism as a driver of health disparities and called for more detailed research. Now, in a special issue of the Journal of the American Heart Association, 16 studies highlight CV health disparities in diverse populations ranging from PAD and heart transplantation to trial enrollment challenges, among others.

Senior associate editor Pamela Peterson, MD, MSPH (Denver Health Medical Center, CO), and associate editor Sula Mazimba, MD, MPH (University of Virginia Medical Center, Charlottesville), say the burden of CVD in Black communities “remains disproportionately high and is a primary cause of disparities in life expectancy between Black and white individuals.” Epidemiologic data suggest that CVD outcome disparities account for about 30% of the difference in mortality between Black and white males and 40% of the difference between Black and white females,” they add.

“It’s important to have a broad picture looking at social determinants of health and how structural racism may play a role,” Peterson told TCTMD. “One thing that I would say about most of these studies is that none of them gives us a firm answer. I think what they do is continue to highlight the need for further research, and to explore to what extent are there biologic reasons, or to what extent are there social determinants of health and other factors, that are playing into these disparities.”

Snapshots in a Broader Picture

In one study, led by Alexander C. Fanaroff, MD, MHS (Perelman Center for Advanced Medicine, Philadelphia, PA), markers of lower socioeconomic status and Black race were associated with higher rates of major lower-extremity amputation in patients with PAD. Nearly four in five Americans who underwent amputation lived in metropolitan areas. Fanaroff and colleagues say strategies are needed to target communities with high amputation rates and to address racial residential segregation in urban neighborhoods that affects access to care. They concluded that solutions may include “investment in the development and implementation of scalable community-based resources for PAD diagnosis and management—potentially including community screening programs, reliable oscillometric ankle-brachial index screening techniques, home-based walking programs, and collaborative efforts to measure and improve the quality of medical management of patients with PAD seen in primary care practices.” An in-depth feature story by TCTMD has previously detailed some of the novel approaches being pioneered to reach at-risk groups.

Access to high-quality healthcare resources as a driver of underlying healthcare disparities also was seen in a study of adult heart transplant recipients. Compared with white patients, those who were Black were less likely to undergo transplantation (adjusted HR 0.87; 95% CI 0.84-0.90) but were at greater risk of post-transplant death (HR 1.14; 95% CI 1.04-1.24), despite an increase in Black and Hispanic patients enrolled on transplant wait lists over the study period.

In another study, heart failure (HF) within 5 years of pregnancy was increased in women with pre-pregnancy hypertension and hypertensive disorders of pregnancy (HDP), but the risks were substantially higher for non-Hispanic Black women compared with white women (2.28 compared with 0.96 per 1,000 person-years). The investigators, led by Angela M. Malek, PhD (Medical University of South Carolina, Charleston), say more data are needed on racial/ethnic
differences in maternal incident HF after delivery “with consideration of pre-pregnancy hypertension and/or HDP, and in particular the individual components of HDP as well as severity.” They added that differentiation between HF with preserved versus reduced ejection fraction and “development of a prediction model to predict the risk of adverse maternal outcomes subsequent to delivery in women with and without HDP or pre-pregnancy hypertension is of interest and could help guide intensified follow-up.”

Other studies in the special issue focus on racial and sex differences in anticoagulation after electrical cardioversion for atrial fibrillation and flutter, disparate outcomes after MI in younger patients, differences in disease expression in hypertrophic cardiomyopathy, out-of-hospital cardiac arrest, white matter structure and amyloid deposition, and health disparities among women of childbearing age.

Peterson said one of the included topics that she would like to see more discussion on involved the enrollment of underrepresented minorities in clinical trials, adding that it has “been an ongoing challenge for many trials in many ways.”

The study to which she referred reviewed National Institutes of Health-funded CV clinical trials registered on ClinicalTrials.gov between 2000 and 2019. Only one trial out of 100 that were included in the review reported meeting its enrollment goal of a specified recruitment target for minority groups.

“The majority of these trials did not specify a Black enrollment target, did not meet targets, and largely did not report plans to enroll Black adults in their studies,” the authors reported. They add that “the first step is for Black inclusion to be a priority at the trial-design phase through defined recruitment targets and intentional recruitment strategies.” In an accompanying editorial, Neal K. Lakdawala, MD (Brigham and Women’s Hospital, Boston, MA), suggests that funding agencies and regulators “should monitor diversity prospectively and actively incentivize investigators to enroll Black patients.”

Peterson said all of the studies highlight the fact that much work remains to be done, both in identifying why disparities exist and addressing the factors responsible for them.

“For a long time, there’s been a lot of research out there that just sort of demonstrates the existence of health disparities,” she said. “The reality is that we have a long way to go to address the problem.”

3. As CDC Moves to Update Contraception Guidance, Cardiologists Should Take Note

The US Centers for Disease Control and Prevention (CDC) is seeking public input on an update to their contraception guidelines, and, as one cardiologist told TCTMD, physicians should pay special attention to hormone-based birth control given its potential interaction with cardiovascular health.

The issue is ever more pressing as CV risk factors have become more prevalent in younger adults. While women of childbearing age likely make up a minority of most cardiology
practices, experts say the onus remains on cardiologists to be aware of the risks associated with oral contraceptives and to make sure their patients are informed.

The current CDC guidelines provide advice on who can take these medications safely and who can’t, based on factors such as age, weight, family history, and various cardiovascular conditions.

Chrisandra Shufelt, MD (Cedars-Sinai Medical Center, Los Angeles, CA), however, says cardiologists today may be unaware of some of the relevant contraindications or concerns, and emphasized that some important groups aren’t getting the attention they deserve.

“Cardiologists need to know about the US Medical Eligibility Criteria for Contraceptive Use, because this guide outlines medical recommendations for specific contraceptive methods in women with certain medical conditions,” Shufelt said in an email to TCTMD. “Specifically, there are many CVD conditions listed, such as hypertension and hyperlipidemia. Still, since 2016, there have been CVD-specific conditions that should be added to this list that are more common in women, such as Takotsubo, POTS [postural orthostatic tachycardia syndrome], and microvascular disease.”

With new generations of contraceptive pills emerging, the CDC’s guidance should address the different formulations of synthetic progestins and estrogens for women with CVD, she said.

Combined hormonal oral contraceptives are generally considered a safe and effective method of preventing pregnancy. Still, hypertension should be monitored, as birth control pills alter blood pressure. Factors such as diabetes, high cholesterol, a body mass index greater than 30 kg/m2, and physical inactivity can increase the risk of clotting in a woman on birth control pills. More-pressing indications such as family history of premature CVD, prior venous thrombosis, and smoking increase that risk further.

An article published earlier this year in the Journal of the American College of Cardiology provides up-to-date details on contraception and reproductive planning in at-risk women with known CVD.

Knowns and Unknowns

“Birth control is great. It’s a great medication. We don’t want to not take it because you learned that this complication might happen. But you definitely want to know what . . . the risks are, and whether you have a higher risk than other people and should be concerned,” stressed Mary Cushman, MD (University of Vermont Medical Center, Burlington), a vascular hematologist who says she sees many referral cases of women who develop venous thrombosis while on the pill.

“One of the common threads I hear from patients after the fact is that they didn’t know about it,” said Cushman. “They didn’t know how to recognize it, and they didn’t know if it happened to them. Trying to get it in front of the right audience is the challenge, . . . so women can get educated.”

Shufelt noted that while the risk of blood clots is widely known, other indications are more obscure. Back in 2009, she and colleague C. Noel Bairey Merz, MD (Cedars-Sinai Medical Center), wrote a review paper devoted to hormone contraceptive use and CVD. They describe,
for instance, data showing that oral contraceptives can prolong QT interval, potentially interacting with other drugs to cause arrhythmias, and that genetic mutations such as Factor V Leiden may elevate the risk of clotting. More recently, as reported by TCTMD, one study showed progestin-based oral contraceptives triple CV events in women with congenital long QT.

Kathryn J. Lindley, MD (Washington University Medical Center, St. Louis, MO), agreed that there are many unknowns.

“There is a large knowledge gap among both cardiologists and patients about which contraceptive methods are safe for patients with cardiovascular disease,” she said. “There is oftentimes a failure to recognize that the long-acting, reversible methods”—eg, intrauterine devices or male condoms—“are safe for essentially all women no matter what their cardiovascular condition is and often when physicians are unsure whether a method is safe, they just recommend against it, and the result is that women end up using barrier methods alone, which are very ineffective methods.”

Although existing research suggests there are myriad risk factors worth considering, birth control pills can be taken by most women and, for some with CVD wishing to avoid pregnancy, a necessity. There has been a push in the past decade to make oral contraceptives available over-the-counter, with the support of organizations such as the American Academy of Family Physicians, as a way to address access and cost barriers.

However, in Shufelt’s opinion, obtaining birth control pills without the proper risk evaluation and informed consent could be too bold a move.

“There’s too many factors involved when you make a decision to put a woman on birth control, in my book, to make them over-the-counter,” she said. “Yet we need to balance that with unwanted pregnancies and what the complications are with pregnancy. So there’s a very fine balance here.”

One of the CDC’s objectives in reviewing their contraception guidance, a process typically done every 5 years, is to help mitigate these lapses in knowledge and communication among researchers, physicians, and the general population. They aim to “provide evidence-based recommendations to assist healthcare providers when counseling patients on contraceptive choice and use.”

4. CMS Pays More to Male Cardiologists, but the Reasons Why Are Murky

Male cardiologists receive significantly more payments from the US Centers for Medicare & Medicaid Services (CMS) in the inpatient and outpatient settings compared with female cardiologists, according to a new analysis.

They receive, on average, 45% more than women in annual CMS payments for inpatient services and 62% more for services performed in the outpatient setting. In terms of hard numbers, this translates to $24,229 and $62,306 more paid to men in 2016 for inpatient and outpatient services, respectively.
Inbar Raber, MD (Beth Israel Deaconess Medical Center, Boston, MA), who led the study, said the difference in payments is not the result of gender bias in CMS reimbursement but reflects other factors.

“There is no gender discrimination from the side of Medicare in terms of reimbursement between men and women,” Raber told TCTMD. “Per billing code, it’s the exact same for both genders. The difference really comes about from the types and volume of charges submitted, with men submitting higher reimbursed charges and a higher number of charges overall compared with women.”

However, after accounting for the number of charges, unique billing codes, patient characteristics, and physician specialty, among other variables, the pay gap remained. “Even after those adjustments, there persisted a 6% difference in reimbursement for men compared to women,” said Raber.

**Fewer Charges, Fewer Unique Codes**

Several studies to date have shown there are differences in pay for male and female physicians across medical specialties, including cardiology. One recent analysis showed that over the course of a lifetime, male cardiologists will earn several million dollars more than their female colleagues. Raber pointed out that a growing proportion of revenue for cardiologists stems from treating patients insured by Medicare and/or Medicaid, which led them to investigate if there were any differences in CMS payments to male and female cardiologists. Previous publications have documented gender differences in CMS payments in other specialties, such as radiation oncology and ophthalmology.

In their study, which was published September 8, 2021, in JAMA Cardiology, the researchers assessed payments received and charges submitted in 2016. The analysis captures data from 17,524 cardiologists, of whom 2,312 were women, receiving CMS payments in the inpatient setting and 16,929 cardiologists, of whom 2,151 were women, receiving payments for outpatient services.

Overall, the mean and median reimbursement payments to men were significantly higher than those received by women. In the inpatient setting, men submitted a median of 1,190 charges to CMS compared with 959 from women. In the outpatient setting, male cardiologists submitted a median of 1,685 charges to CMS for reimbursement compared with 870 from women. Men also submitted more unique billing codes to CMS.

|                      | Men    | Women | P Value |
|----------------------|--------|-------|---------|
| **Payment, $**       |        |       |         |
| Inpatient            | 62,897 | 45,288| < 0.001 |
| Outpatient           | 91,053 | 51,975| < 0.001 |
| **Number of Charges**|        |       |         |
Male cardiologists had more years in practice than female cardiologists. In terms of patient characteristics, the individuals that male cardiologists treated were older (both inpatient and outpatient) and also had marginally higher rates of diabetes, hyperlipidemia, hypertension, and ischemic heart disease but lower rates of heart failure. However, female cardiologists still received less reimbursement compared with men even after adjusting for the number of charges submitted, number of unique billing codes submitted, complexity of patients, physician experience (years since graduation), and physician subspeciality.

When researchers stratified physicians by quintiles based on the number of CMS charges submitted in the inpatient setting, there were significant differences in the median payments favoring men across all charge groups. There was no difference in median CMS payments between men and women within each charge group in the outpatient setting, however.

Finally, they performed a sensitivity analysis and excluded interventional cardiologists and electrophysiologists, because these are high-volume subspecialties with greater gender imbalances than in general cardiology. After doing so, the differences in CMS payments persisted, say the researchers. And even when physicians were categorized by general cardiology, interventional cardiology, and electrophysiology practicing in the inpatient and outpatient setting, men received higher mean CMS payments compared with women.

### Why Are Women Billing Less?

Rashmee Shah, MD (University of Utah School of Medicine, Salt Lake City), who has previously shown that female cardiologists will earn $2.5 million less than male cardiologists over a 35-year career, said the new analysis is a fascinating look at the differences in reimbursement.

“For Medicare, women cardiologists bill less in the fee-for-service program and accordingly they receive less payments. That’s not too surprising, but why do they bill less is one question,” Shah told TCTMD. It is possible women have different practice and/or billing styles, such as treating more patients covered by Medicare Advantage or private insurance, she suggested. It’s also possible there is less support or fewer resources for women to help with billing, meaning they may be less likely to receive appropriate compensation for services provided.

Shah said one novel way to view the analysis is to flip it on its head.

“Medicare is going to go bankrupt in 5 years or less,” she said. “Women are billing Medicare less. How are they doing that? Is it beneficial for patients’ outcomes, and if it is, how do we get everyone to do that? Women are saving money for Medicare, and everybody should think that’s a good thing.”
Shah would like to know if there are any differences between men and women with respect to the number of submitted CMS charges per patient. Additionally, she wondered if there is any link between patient outcomes and billing charges. As a corollary, CMS recently posted a job listing for a Chief Experience Officer, she noted.

“This is someone who is, presumably, supposed to focus on patient outcomes and not just outcomes like mortality but: is the patient happy with the care they received?” said Shah. “Do they feel like their questions were answered? Did they understand what the doctor told them? That’s an important thing to measure here. We have to shift the way we do studies to focus on things the patients care about.”

In terms of why there are differences in types and volume of charges submitted, Raber said the study wasn’t designed to address these underlying reasons, but the authors have some hypotheses. For example, women may have increased obligations in nonreimbursed work, such as mentoring, teaching, or serving on committees. Also, it’s possible the lower number of charges submitted by women reflect different practice styles, said Raber. In a 2020 study, for example, researchers showed that female primary-care physicians generated less revenue than men because they had fewer patient visits but spent more time with individual patients.

“In terms of the type of codes submitted, it’s not clear if men are overcoding for certain visits or if women are undercoding for certain patient encounters,” said Raber.

Going forward, she said, it’s important to ensure there is adequate structural support at the institutional level for men and women practicing cardiology, which would include support staff, as well as education on appropriate billing. She suspects this might help narrow the reimbursement gap.

5. Pregnancy-Related Aortic Complications in Women With Marfan Syndrome

BACKGROUND

The risk of pregnancy-associated vascular complications in Marfan syndrome (MFS) is uncertain because of ascertainment bias, prepartum lack of knowledge of diagnosis, and insufficient peripartum imaging data. Furthermore, U.S. and European guidelines differ in pregnancy recommendations in MFS.

OBJECTIVES

This study describes a single-center experience of 169 MFS women to address these gaps.

METHODS

Clinical, imaging, and pregnancy history were compared in never vs ever-pregnant MFS women, and pregnancy-associated vascular complications were described.

RESULTS

A total of 74 ever-pregnant women had 112 live births. Elective aortic root replacement occurred at a younger age in never-pregnant women (33 years vs 42 years; P = 0.0026).
Although aortic dissection prevalence did not differ between never-pregnant vs ever-pregnant women (23% vs 31%; \( P = 0.25 \)), it tended to occur at an earlier age in the former group (38 years vs 45 years; \( P = 0.07 \)). Of observed “sanctioned” pregnancies with prepartum diameters \( \leq 4.5 \) cm, mean pregnancy-related aortic diameters remained stable. In total, 5 dissections were associated with pregnancy: 2 type A in women unaware of their diagnosis; and 2 type B and 1 isolated coronary artery dissection in women aware of their diagnosis. Dissection rates were 5-fold higher in the pregnancy vs nonpregnancy period.

**CONCLUSIONS**

Pregnancy-related type A dissection only occurred in patients unaware of their diagnosis. Type B dissection remains an unpredictable complication. Although there were baseline differences between the never- and ever-pregnant groups, no difference in dissection risk was observed outside the peripartum period. Those with prepartum aortic diameters between 4.0 and 4.5 cm demonstrated stable aortic dimensions throughout pregnancy. These findings provide a rationale to update existing U.S. guidelines for the management of pregnancy in MFS.

**6. Women, Minority Groups Still Lagging in Clinical Faculty Positions**

Racial and ethnic diversity in U.S. clinical academic departments increased, but at a slower rate than proportions of women in faculty positions, during the past three decades, according to a research letter published online Aug. 30 in JAMA Network Open.

Alexander Yoo, M.D., from the University of Rochester Medical Center in New York, and colleagues examined 30-year demographic trends across academic medicine departments to assess the proportion of individuals identifying as women or underrepresented groups in medicine (URM) between academic faculty and specialty-matched residents. Data included 16 clinical academic medicine departments in the Association of American Medical Colleges Faculty Roster from 1990 through 2019, with a representation ratio calculated as the proportion of women or URM for faculty in 2019 divided by that for residents six years prior.

The researchers found that of the 3.1 million faculty entries, 34.6 percent were women and 71.9 percent were for White physicians. By 2019, women comprised more than 50 percent of faculty members in five of 16 clinical academic departments. For eight of 16 specialties, proportions of URM faculty increased. While it had the highest proportion of women faculty, obstetrics and gynecology demonstrated the third lowest representation ratio (0.81), whereas orthopedic surgery had the highest representation ratio (1.48) but the lowest overall proportion of women faculty. For URM, the overall representation ratio was 0.76, with most specialties having representation ratios less than 1.0.

"Studies are needed to determine modifiable differences and how to implement change to optimize faculty demographics,” the authors write.
7. Hypertensive disorders in women with peripartum cardiomyopathy: insights from the ESC EORP PPCM Registry

Aims

Hypertensive disorders occur in women with peripartum cardiomyopathy (PPCM). How often hypertensive disorders co-exist, and to what extent they impact outcomes, is less clear. We describe differences in phenotype and outcomes in women with PPCM with and without hypertensive disorders during pregnancy.

Methods and results

The European Society of Cardiology EURObservational Research Programme PPCM Registry enrolled women with PPCM from 2012–2018. Three groups were examined: (i) women without hypertension (PPCM-noHTN); (ii) women with hypertension but without pre-eclampsia (PPCM-HTN); (iii) women with pre-eclampsia (PPCM-PE). Maternal (6-month) and neonatal outcomes were compared. Of 735 women included, 452 (61.5%) had PPCM-noHTN, 99 (13.5%) had PPCM-HTN and 184 (25.0%) had PPCM-PE. Compared to women with PPCM-noHTN, women with PPCM-PE had more severe symptoms (New York Heart Association class IV in 44.4% vs. 29.9%, \( P < 0.001 \)), more frequent signs of heart failure (pulmonary rales in 70.7% vs. 55.4%, \( P = 0.002 \)), a higher baseline left ventricular ejection fraction (LVEF) (32.7% vs. 30.7%, \( P = 0.005 \)) and a smaller left ventricular end-diastolic diameter (57.4 ± 6.7 mm vs. 59.8 ± 8.1 mm, \( P = 0.001 \)). There were no differences in the frequencies of death from any cause, rehospitalization for any cause, stroke, or thromboembolic events. Compared to women with PPCM-noHTN, women with PPCM-PE had a greater likelihood of left ventricular recovery (LVEF ≥ 50%) (adjusted odds ratio 2.08, 95% confidence interval 1.21–3.57) and an adverse neonatal outcome (composite of termination, miscarriage, low birth weight or neonatal death) (adjusted odds ratio 2.84, 95% confidence interval 1.66–4.87).

Conclusion

Differences exist in phenotype, recovery of cardiac function and neonatal outcomes according to hypertensive status in women with PPCM.

8. Early Menopause Linked to Increased ASCVD Risk

Early onset of menopause is an important risk factor for atherosclerotic cardiovascular disease (ASCVD), according to an analysis of women enrolled in numerous population-based studies.

“To me, what it says is that we need to start even earlier with prevention measures,” senior author Sadiya S. Khan, MD, MS (Northwestern University Feinberg School of Medicine, Chicago, IL), told TCTMD. “If somebody goes through menopause early, we need to be paying extra close attention to blood pressure, cholesterol, diabetes, and other risk factors for heart disease.”

Premature menopause—defined as natural or surgical menopause before age 40—was associated with ASCVD, independent of traditional risk factors, with an HR 1.24 (95% CI 1.03–1.49) in Black women and 1.28 (95% CI 1.13–1.45) in white women.
Adding premature menopause status to the pooled cohort equations used to predict 10-year risk, however, did not result in any incremental benefit in terms of prediction ability. While the study doesn't directly address how well the American College of Cardiology/American Heart Association practice guidelines for reducing ASCVD are working in women, the implication from this study is that the pooled cohort equations for risk assessment are adequate, Khan said.

For the study, published this week as a research letter in JAMA Cardiology, Khan and colleagues, including lead author Priya M. Freaney, MD (Northwestern University Feinberg School of Medicine), analyzed data from the Framingham Heart Study, the Framingham Offspring Study, the Atherosclerosis Risk in Communities study, the Coronary Artery Risk Development in Young Adults study, the Cardiovascular Health Study, the Multi-Ethnic Study of Atherosclerosis, and the Women's Health Initiative. Participants were ages 40 to 79 years and had no history of ASCVD.

**Enhanced Risk in Black Women**

Three sensitivity analyses of women with natural menopause, surgical menopause, and those ages 40 to 54 years showed similar levels of increased ASCVD risk when early menopausal transition occurred. “I think the finding that that was consistent is reemphasizing that the risk-factor levels are still the most prominent part of the risk-prediction model,” Khan noted.

In the paper, the researchers say premature menopause “may be a marker of underlying risk rather than a contributor to ASCVD development, because studies have reported a positive association between premenopausal cardiovascular health (eg, body mass index, systolic blood pressure, physical activity) and early age at menopause.”

While there were fewer Black women (n = 5,466) than white women (n = 10,584) overall in the cohorts, Black women were much more likely to experience premature menopause (17.4% vs 9.8%), confirming data from several prior studies. Additionally, Black women were more likely than white women to have high blood pressure, high cholesterol, and diabetes.

“In this relatively young group of Black women, half of them were on treatment for hypertension, and that’s irrespective of menopausal status,” Khan observed. “We need to work on implementing evidence-based therapies for risk-factor control, or preventing the risk factors from developing in the first place.”

She added that looking at what happens to women’s health in midlife and how that can differ by race and ethnicity is increasingly important given the known influence of social determinants of health.

“I think future research should investigate whether adverse social factors play a role in early menopause, and whether they may also be contributing to risk for ASCVD in midlife for Black women compared with white women,” Khan added.
9. CAD Risk Up With Radiation Treatment for Left-Sided Breast Cancer

Young women treated with radiation therapy (RT) for left-sided breast cancer have an increased risk for coronary artery disease (CAD) compared with those treated for right-sided breast cancer, according to a study published in the Sept. 1 issue of JACC: CardioOncology.

Lauren E. Carlson, M.P.H., from the Memorial Sloan Kettering Cancer Center in New York City, and colleagues reported CAD risk among 1,583 women aged younger than 55 years when diagnosed with breast cancer between 1985 and 2008. The risk for radiation-associated CAD was assessed by comparing women treated with left- versus right-sided RT. Overall, 972 women were eligible for analyses and were followed for a median of 14 years.

The researchers found that the 27.5-year cumulative incidences of CAD were 10.5 and 5.8 percent for women receiving left- versus right-sided RT, respectively. In the multivariable Cox model, the corresponding hazard ratio for CAD was 2.5 for left- versus right-sided RT. No statistically significant effect modification was seen by any factor evaluated.

"This study also reaffirms the role of prolonged surveillance for CAD in younger survivors," write the authors of an accompanying editorial. "Given the latency between radiation exposure and the development of cardiovascular events, it is important that young women who have received left breast RT be considered at higher risk over their lifetime."