

Women in Cardiology: The X Factor and the Heart of Medicine

Alexandra Lucas^{1*}, MaryAnn Eaverly², Grant McFadden³ and Marsha Bryant⁴

¹Department of Medicine, Division of Cardiology and Molecular Genetics and Microbiology, University of Florida, USA

²Department of Classics, University Florida, USA

³Department of Molecular Genetics and Microbiology, University of Florida, USA

⁴English and Distinguished Teaching Scholar, University of Florida, USA

*Two sides of a leaf,
Sunlight and air.
Two parts a flower,
Stamen and pistil,
So constant, so rare.*

*No life without breath;
No breath without leaves;
No leaf without branch;
No branch without root.
Leaves shining on trees.*

*Both sides of the leaf
For new life born.
Woman and man
Ever returning,
Embodied and torn.*

*Growth through earth;
Vines etching glass;
Roots breaking walls,
Branch reaching up,
Power limitless, vast.*

Alexandra Lucas, 2014

After many years practicing medicine and pursuing research as a female in the cardiovascular field, I now recognize that there is an illness in the field. The role for women in cardiovascular medicine, and in particular in academic medicine, is unwell. We need a diagnosis, recognition of this chronic illness and an approach to curing the problem. While the status of women in the cardiovascular field has improved greatly, there remains a significant gap. This is a traditionally male dominated field, a field of larger income and power. Women are now acknowledged, and often accepted and respected, but the status of women remains that of a second class citizenship. This relegation and eventual loss of many highly talented women in the Cardiovascular disciplines cause great harm to medicine, with a loss of talent, dedicated and focused intelligence, innovative ideas, and generally a loss of advances in clinical and academic medicine. This editorial is intended to provide insight and to initiate a discussion around the role and powers, or lack thereof, for women in Cardiology.

One of the most obvious symptoms of this illness in our community is the absence of women in higher-ranking positions, such as editor in chief in some preeminent Cardiology journals, often those journals with the greatest readership. This editorial was sparked initially by an observation on the ranking of women in these journals. Thus on physical

examination of our patient, we note that there is a very visible ranking of leaders in Cardiology and yet this highly visible list is often ignored. We have not seen the elephant in the room. On the first pages of two of the leading Cardiology journals, the Journal of the American College of Cardiology and Circulation is a listing of editorial board members. Even more apparent are the Editors-in-chief (EIC) appointed to each of these journals. In short, there are not presently, and to my knowledge have not previously been, women appointed as EIC to either of these leading journals, although there may have been women who were almost appointed EIC (runner up in the selection). Further the editors listed are overwhelmingly male. It is my hope that this commentary will raise awareness for the role of women in cardiovascular medicine and particularly in academic medicine, and engage new participants in this discussion. We would like to see true progress in the status of women, not the current polite and, as noted, respectful delegation of women to second tier positions.

These reflections are based upon personal observations made while practicing both in Canada and the United States, but it must be noted these do not represent an in-depth analysis of all areas in this field. As EIC of a new and still small online journal, the Journal of Clinical and Experimental Cardiology (JCEC), and as a female who practices Cardiology, I have with time become even more curious that this disparity is tacitly acknowledged without challenge. Certainly there is a vast improvement in the current field with more women in all areas of Cardiology, but there remain many instances, as in the past, of women being energetically encouraged to go into less high paying areas of Cardiology - certainly I experienced this myself. As a snap shot of current trends in Cardiology this ongoing disparity and inequity is representative of women in many areas of medicine.

Another of the physical findings in this disorder was seen in my first clinical position in Cardiology and also during early residency training, where we were taught that women did not get coronary disease and did not need angiography and intervention. Thus, not only did we see women encouraged to go into other disciplines, but our female patients were also similarly ignored. The lack of acknowledgement of vascular disease in women was found to be highly inaccurate. Women are protected, in some cases, from coronary arterial disease until after menopause, but after menopause they catch up in risk and have higher

***Corresponding authors:** Alexandra Lucas, Divisions of Cardiovascular Medicine and Rheumatology, University of Florida, 1600 SW Archer Rd, PO BOX 100277, Gainesville, FL, USA, Tel: 32610-0277; E-mail: alexandra.lucas@medicine.ufl.edu

Received February 26, 2014; **Accepted** March 04, 2014; **Published** March 08, 2014

Citation: Lucas A, Eaverly MA, McFadden G, Bryant M (2014) Women in Cardiology: The X Factor and the Heart of Medicine. J Clin Exp Cardiol 5: e134. doi:10.4172/2155-9880.1000e134

Copyright: © 2014 Lucas A, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

mortality from coronary events than their male counterparts once they reach older age. It was indeed a very revealing paper published in the *New England Journal of Medicine* in 1991 clearly demonstrating that women, when presenting with the same symptoms and findings of angina and infarction as men, did have coronary disease and myocardial infarction (heart attack) [1]. The article reported the differences in treatment of women at risk for cardiovascular disease and demonstrated, clearly, that women were offered less access to diagnostic studies. In general there was less effort made to proceed to intervention, whether surgical bypass or percutaneous angioplasty. With this seminal paper, more women are now evaluated on a basis similar with men for potential coronary disease, unstable angina and ST elevation MI. Indeed this has likely contributed to the welcome dramatic decline in CVD mortality among women that now exceeds that observed among men. Can we achieve the same in this disorder of women that I am describing? Perhaps.

A sign of improving health and outcomes in this disorder of women in Cardiology is that there are more active women in the cardiovascular field and in particular in academia. There is also greater acknowledgement of the fact that women present with very different symptoms from men, often referred to as atypical, and that when women develop coronary disease they are often older and have higher mortality. Our own Cardiovascular group has led many studies on women and Cardiovascular disease [2,3]. In a parallel development and representative of a true advancement in the field of medicine and Cardiology, we now see a greater percentage of women in Cardiology and in medicine in general. We also begin to see women advancing to senior positions. However, as with all illness, this one has not completely run its course. Wherever there is money and power, as has been true for many years in interventional Cardiology, women are less often appointed to higher positions, e.g. positions of power. Higher level positions are handed more readily to our male colleagues.

In a recent article discussing the representation of women as speakers at national meetings and specifically at the American Society of Microbiology meetings, it was stated that women were underrepresented. This same article also noted that if women were included as speakers the number of women attending the meeting increased. This excellent review states that "The proportion of women entering scientific careers has increased substantially, but women remain underrepresented in academic ranks. Participation in meetings as a speaker is a factor of great importance for academic advancement. We found that having a woman as a convener greatly increased women's participation in symposia, suggesting that one mechanism for achieving gender balance at scientific meetings is to involve more women as conveners"[4].

Having watched this ongoing dance, this progressive illness, I would like to recommend more pro-active involvement in recruiting women to these higher level positions. We can thus vaccinate against the older established ways and begin to develop new treatments and perhaps a cure. As for any good research or clinical study into a new therapy this can begin as a discussion on the topic, specifically the topic of women, the X factor and the glass ceiling. In fact women are often placed in a more elegant place in the ranks, which I would like to name the crystal ceiling. It is an expensive and elegant shiny crystal cage, but nonetheless a barrier to advancement.

Even more amusing has been the rigor with which the cardiovascular protocol and pecking order is maintained during Cardiology grand rounds. This has been true on both sides of the border. When it comes to the time to ask for questions after a visiting speaker's seminar, or

in fact any seminar, the most senior male, sometimes the most vocal, is generally pointed out and given the right to ask the first question. Usually the next most senior male or males then speak and finally women may ask a question. This rigid order is maintained irrespective of the topic, even if the topic is women and their atypical presentations for cardiac disease and also irrespective of age of the female asking the question. While there are exceptions to this rule, this is the general protocol for the procedure of asking questions of a speaker.

In other disciplines women still struggle to advance. In physics women represent only 14% of academics, which is sad as the world of physics would be a less rich place without women such as Marie Curie, who incidentally was not allowed to drive a car or have a laboratory in France. However, despite these limits, Curie made elegant discoveries and apparently found alternative transport by bicycling. We see huge advances in equality for women, but when money or power is at stake there remains inequality. Where race or religious differences are involved, one will more often see a man advanced. Women are not as yet first class citizens. Having grown up in the South and trained in Medicine and Cardiology, I have had first-hand experience in this world of Y dominance. I have seen and felt an entire group of people treated as less than equal, an inequality that extends to women of all races and cultures. These outward differences remain barriers to advancement. On genetic testing, we know all races are nearly identical and yet we as a group still cling to ancient racial and sexual barriers. Of great fascination to this writer are the recent findings of Neanderthal genes in modern man. While the Neanderthals lost the evolutionary race, there are very few Neanderthal genes on the X chromosome. Certainly ancient religions placed women in positions of great reverence and power.

With this editorial I hope to make a call to discussion on the role of women in medicine and science and in particular in the higher level academic positions. I would like to discuss the presence of the still very much intact 'crystal' ceiling as a barrier to the advancement of women. We would suggest that women have often, more so in the past but still ongoing, been actively discouraged from pursuing higher positions in any area of Cardiovascular medicine. One assumes this is, in part, because these positions bring in larger salaries with higher perceived power. I have not provided numbers illustrating how many women hold leadership positions or even senior editor positions in Cardiology. I think one can simply look around and see the evidence that faces us and which illustrates the fact those women still face barriers to moving forward.

This overview represents only one aspect of the current secondary roles and positions of women in this high-power field, representing an individual's view of what is known throughout the field. This analysis supports the viewpoint that the numbers of women who are appointed as heads of cardiovascular sections (interventional Cardiology, heart failure and imaging), women who are division chiefs or even further women who become the chair of internal medicine or University presidents remain small. This observation also indicates that it is time we consider women for leadership roles in Medicine and Cardiology. We are in fact limiting our pool of talented and often brilliant participants who have the potential to raise the level of clinical and academic insight wherein new discoveries of causes for diseases and new therapies may be identified.

The patient is improving, but still ailing and the issues need resuscitation and discussion. The glass ceiling is alive and well and we would hope to create at the very least a small crack in this crystal façade. We would like to see women given the opportunities to advance to senior

positions in the cardiovascular field and in truth, in all disciplines of medicine. Having kept quiet through years of locked doors and crystal ceilings, this practicing physician and biomedical researcher would like to speak out and ask for change. It is indeed long past time to tear down the walls and to crack the ceiling. We would like to etch the glass and break the wall, pushing through these walls and ceilings. Let's support equality for women and shatter this crystal cage that incarcerates many women in all fields, an X factor revolution.

*A small crystal ceiling
Sand fused by light.
Grown from X Y;
Endless X, endless Y,
Endless time, Endless flight.*

*Glass fractured,
Broken tower,
Windows shattered.
Woman's weapon,
Women's power.*

Alexandra Lucas, 2014

References

1. Steingart RM, Packer M, Hamm P, Coglianese ME, Gersh B, et al. (1991) Sex differences in the management of coronary artery disease. Survival and Ventricular Enlargement Investigators. N Engl J Med 325: 226-230.
2. Petersen JW, Mehta PK, Kenkre TS, Anderson RD, Johnson BD, et al. (2014) Comparison of low and high dose intracoronary adenosine and acetylcholine in women undergoing coronary reactivity testing: Results from the NHLBI-sponsored Women's Ischemia Syndrome Evaluation (WISE). Int J Cardiol 172: e114-115.
3. Bertoia ML, Allison MA, Manson JE, Freiberg MS, Kuller LH, et al. (2012) Risk factors for sudden cardiac death in post-menopausal women. J Am Coll Cardiol 60: 2674-2682.
4. Casadevall A, Handelsman J (2014) The presence of female conveners correlates with a higher proportion of female speakers at scientific symposia. MBio 5: e00846-00813.