

increased costs, were frequently inaccessible, and required well-trained physicians. The use of USCOM® and NICOM® devices, available since 2015, provide information about maternal cardiac output and systemic vascular resistance (SVR) in each heartbeat by simply placing a transducer on the suprasternal notch and chest wall in a non-invasive and automated fashion and without requiring operator training. These methods, which have already been used in daily practice to measure maternal hemodynamic parameters, particularly in developed countries, have been validated and have demonstrated that the persistent increase in SVR measured in the second trimester of pregnancy is an independent predictor with high sensitivity and specificity. (2-3)

In the “Preeclampsia is Preceded by Abnormalities in Cardiovascular Function” article by Paez et al., (4) hemodynamic parameters were measured in 260 primiparous women during the second trimester of pregnancy and 1 year later, with estimation of cardiac index, SVR, and pulse wave velocity (PWV) by traditional methods as color Doppler echocardiography and impedance cardiography. The population was divided into three groups: preeclampsia, gestational hypertension or normotension. As most patients developed late-onset HDP, after 34 weeks of pregnancy, it was not possible to compare the hemodynamic patterns of early-onset HDP and late-onset HDP. However, at 22 weeks of pregnancy, and to a lesser extent at one year after delivery, patients with HDP had higher blood pressure, SVR and PWV, and lower cardiac index and heart rate, compared with normotensive patients. These findings were more evident in the preeclampsia group than in the gestational hypertension group. These results are in line with most publications on this subject, highlighting the predictive value of maternal hemodynamic changes in the second trimester, which persist for a year, as long-term markers of endothelial dysfunction. (5) Although the hemodynamic abnormalities that persist over time are evident in early-onset preeclampsia and in the subsequent HDP in different pregnancies, they are not common in late-onset preeclampsia in primiparous women as it happened in this population.

Recently, McLaughlin et al. (6) reported that the determination of biomarkers and SVR would represent the option with the best predictive value even one month before the development of signs and symptoms of HDP.

This also makes us reconsider whether we could initiate treatment before the onset of symptoms, and whether the treatments currently used, mainly first choice drugs, as for example, beta-blockers as labetalol, should be guided by hemodynamic parameters, as some authors suggest, or not, according to ACOG, NICE, and ESC guidelines. But the evidence is still insufficient, and the number of antihypertensive drugs allowed in pregnancy is limited. The next challenge will be to work on these issues.

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None declared.

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REFERENCES

1. Thadhani R, Mutter WP, Wolf M, Levine RJ, Taylor RN, Sukhatme VP, et al. First trimester placental growth factor and soluble fms-like tyrosine kinase 1 and risk for preeclampsia. *J Clin Endocrinol Metab* 2004;89:770-5.
2. Vinayagam D, Patey O, Thilaganathan B, Khalil A. Cardiac output assessment in pregnancy: comparison of two automated monitors with echocardiography. *Ultrasound Obstet Gynecol* 2017;49:32-38. doi: 10.1002/uog.15915.
3. Khalil A. Maternal systemic circulation in normotensive pregnancies and those complicated by preeclampsia. *Pregnancy Hypertens* 2015;5:11. <https://doi.org/10.1016/j.preghy.2014.10.026>
4. Paez OB, Puleio PA, Visser M, Mazzeo S, Antelo L, Alderete JR, ET AL. Preeclampsia is Preceded by Abnormalities in Cardiovascular Function. *Rev Argent Cardiol* 2020;88:52-56. <http://dx.doi.org/10.7775/rac.v88.i1.17192>
5. Thilaganathan B, Kalafat E. Cardiovascular System in Preeclampsia and Beyond. *Hypertension* 2019;73:522-31. <https://doi.org/10.1161/HYPERTENSIONAHA.118.11191>
6. McLaughlin K, Zhang J, Lye SJ, Parker JD, Kingdom JC. Phenotypes of pregnant women who subsequently develop hypertension in pregnancy. *J Am Heart Assoc* 2018;7: e009595. <https://doi.org/10.1161/JAHA.118.009595>

Rev Argent Cardiol 2019;87:171-172. <http://dx.doi.org/10.7775/rac.v88.i2.17586>

Doctors as a machine, not as balance

The world has lost its balance and harmony. In the 21st century, everything is justified by globalization, the age of technology and related advances, but the truth is that the world has lost the human being as a person, in his or her integrity and essence; the human being who maintains the balance between body, mind and soul, which allows the connection with the entire universe. In the article “Mistreatment in Medical Training: Situation in Cardiology Residences”, Galli et al. clearly explain the result of believing in a violent method to generate suitable professionals.

Unfortunately, violence generates more violence, and discipline does not mean mistreatment. Medical residents are perceived as students or trainees, and not as professionals; but the saddest thing is that they are not considered human beings, they cannot make mistakes. They are machines that solve problems, that work endless hours and that do not take care of the patient as someone who must reestablish a lost harmony. Clearly, if they are not treated on a balanced basis, how can we expect doctors to be able to see their patients as a whole?

They are trained to fix bodies, not heal souls. As the

article correctly mentions, reproducing Albert Bandura's words, "[...] most human behavior is learned observationally through modeling. Observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action". Medicine has lost its anthropological act; the rules of behavior learned are those of a job that must be done, and if not, doctors will be punished, humiliated, intimidated. Verticalism seems the only way to succeed to reach the top, as in the corporate ladder. Doctors are not trained to listen to patients, to understand them, to accompany them, to perceive that their diseases are the manifestation of a framework of worries or situations on which they do not stop thinking. A paradox since it is the same situation that physicians experience in their residency programs. The article mentions different studies in the world that have demonstrated the clear relationship between physical and psychological abuse received by medical residents and the development of burnout syndrome, included in the new International Classification of Diseases (ICD-11), as well as depression and anxiety. In the psychological concept the manifestation of diseases begins with a simple action when the person cannot talk or is not listened or contained. The mind turns it into a symptom

and the soul suffers. We live in a world that is governed by the mistreatment of nature, animals and human beings, in a framework where respect, ethics and morality have been lost. It is time to change that reality, from wherever one can. It would be important to develop specific training programs to restore the balance and lost values. Doctors are not machines, we are not here to fix bodies, but to heal souls.

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REFERENCES

Galli A, Gimeno G, Lobianco MD, Swieszkowski S, Grancelli H, Kazelian L, et al. Maltrato en la formación médica: situación en las residencias de cardiología. *Rev Argent Cardiol* 2010;88:48-54. <http://dx.doi.org/10.7775/rac.es.v88.i1.15783>

Rev Argent Cardiol 2019;87:172-173. <http://dx.doi.org/10.7775/rac.v88.i2.17583>