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A First Look at Heart Performance in Opera Singers Using Integrated Sports Medicine

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Editorial

Cardiopulmonary exercise is necessary for opera singers. There has been no research into the effect on cardiac performance. Our goal was to validate the effect of singing on heart function, namely by evaluating ECG and deformation parameters such as strain, rotation and twist. Methods: A total of 17 OS (opera singers) were evaluated using a 12-lead ECG and 2D echocardiography. A post-processing examination of the photos was incorporated to acquire the deformation parameters. The mean and standard deviation of the data were compared to a group of 15 high-level athletes.

The vocalist movements of opera singers (OS) serve as continual physical training. This is a hemodynamic commitment, particularly in the muscle and cardiovascular areas. Breathing is an essential part of opera singing and might be regarded a primary element, similar to phoniatrics. Technically, variations in intrathoracic pressure are caused by changes in posture and activity of the abdominal muscles and diaphragm during singing activities. The latter has a physiological effect on rib cage organs such as the lungs and heart. The muscles of the abdomen and solar plexus are pushed outward when singing, whereas the belly in the umbilical area is continually pulled inside. It has been shown that opera singers have stronger chest-wall muscles and that their hearts pump more efficiently [1].

It is generally established that music with frequencies ranging from 432 to 528 Hz can have an effect on hemodynamic parameters such as heart rhythm, particularly heart-rate variability (HRV) and blood pressure, as well as overall well-being. Some experiences have investigated the impact on anxiety and emotions. Others have looked at ECG electrophysiological measures of regional heart activity. However, the possible influence on cardiac performance in terms of morphological and functional adaptation has not been investigated. This paper proposes an indirect role for the impacts of singing, particularly lyrical singing, on the cardiovascular system, focusing on morphological adaptation. Vocal practice is a crucial component resulting in mechanical/physical/physiological adaptations in opera singers, but not the music itself [2].

Opera singers are interested in strengthening the elastic explosive power of the rib cage to enable greater vocal performance; hence, myocardial performance might be associated with a prospective adaptation. A control group was recruited from among highly skilled athletes involved in canoe sports to ensure proper interpretation of any unusual changes in the heart's characteristics. The purpose of this study is to confirm the long-term influence of singing on heart performance, as determined by echocardiographic evaluation of deformation parameters on the left and right ventricles at rest, assuming opera singers do physical activity like athletes.

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Music, according to the research, has various therapeutic impacts, particularly on cardiac hemodynamics. Although these investigations were done on different frequencies of music, they indicate advantages in numerous cardiac characteristics such as blood pressure and HR variability. However, the effect of music on cardiac morphology and remodelling in vocalists has not been studied. On the contrary, few data are available in the context of physical performance in opera singers, particularly when the music is not only listened to but also generated. The question then becomes whether opera singing can be deemed fitness, based on an early research that just looked at body composition [3].

The study is thus founded on the concept of investigating OS from the morphological heart remodelling, as in the case of athletes and comparing OS myocardial morphology to extremely high-intensity trained athletes. This study was done at rest to evaluate and verify the long-term influence to prospective long-term myocardial adaptation, which is the optimal position to analyze future minor changes in myocardial morphology and contraction. Both groups studied were continuously schooled in their setting for several years. As a result, precise measurements of deformation parameters were used to give an in-depth analysis of myocardial performance [4].

In the case of exercise testing, when numerous other hemodynamic components of the heart response to exercise might play a confusing role in its right interpretation, no new information could be gained. As a result, no exercise tests were included in the protocol research. Given that this is the first research dedicated to this evaluation, this technique may be deemed the best model at the moment. The statistics collected, notably for the RV chamber, show the need of exploring this area. The real interpretation of the data verifies the normal operation of the heart in the absence of any harmful influence on the heart. The RV appears to be involved in some way [5].

Conclusion

The current study is a first attempt to incorporate people that have not yet been evaluated in sports medicine. Despite this imperfect approach in sports medicine, particularly given the current transversal interest in sports medicine to a large population of patients nearing the end of effective training, this pilot research can be used as a stimulus to broaden this point of view. More research is needed to validate these findings and to investigate the various impacts of music exercise in more depth.

Conflict of Interest

None.

References

1. Koelsch, Stefan and Lutz Jäncke. "Music and the heart." *Eur Heart J* 36 (2015): 3043-3049.
2. Devereux, Richard B. "Detection of left ventricular hypertrophy by M-mode echocardiography. Anatomic validation, standardization and comparison to other methods." *Hypertension* 9 (1987): II19.
3. Zoghbi, William A., David Adams, Maurice Enriquez-Sarano and Rebecca T. Hahn, et al. "Recommendations for noninvasive evaluation of native valvular regurgitation: A report from the American Society of Echocardiography developed in

collaboration with the Society for Cardiovascular Magnetic Resonance." *J Am Soc Echocardiogr* 30 (2017): 303-37

4. Kaku, Kyoko, Masaaki Takeuchi, Kiyohito Takigiku and Amit R. Patel, et al. "Age-related normal range of left ventricular strain and torsion using three-dimensional speckle-tracking echocardiography." *J Am Soc Echocardiogr* 27 (2014): 55-64
5. Grossman, E., A. Grossman, M.H. Schein and R. Zimlichman, et al. "Breathing-control lowers blood pressure." *J Hum Hypertens* 15 (2001): 263-269.

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