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Heart Rate Recovery Is Impaired in Inflammatory Bowel Disease: Active Disease versus Remission

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Dear Editor,

We read the article entitled “Heart Rate Recovery Is Impaired in Patients with Inflammatory Bowel Diseases” by Sarli et al. [1] with great interest. They reported that heart rate recovery (HRR) was significantly lower in patients with inflammatory bowel disease compared to healthy controls. Besides, there was a significant correlation between HRR and the duration of disease.

The treadmill exercise test is commonly used in cardiology practice at several stages of cardiac examination, such as the non-invasive evaluation of coronary artery disease, cardiac autonomic dysfunction, chronotropic incompetence, and functional status, and it provides valuable information [2]. Inflammatory bowel diseases are chronic inflammatory and autoimmune disorders of the gastrointestinal tract and have been associated with an increased risk of cardiovascular morbidity and mortality [1].

The HRR index is measured as the reduction in heart rate within the 1st minute immediately after the treadmill exercise test and provides valuable information about cardiac autonomic functions. Impaired HRR was defined as a decrease of less than 12 bpm, which is an independent predictor for both cardiovascular and all-cause mortality [3].

The authors suggested that the chronic inflammation present in patients with chronic inflammatory bowel disease might have a role in the deterioration of the autonomic function. Proinflammatory responses have been associated with an impaired autonomic response and heart rate variability in a previous study [4]. Recently, Efe et al. [5] found an independent association between IBD and interatrial electromechanical conduction, a predictor of atrial fibrillation, and we also found significant differences between patients with active disease and those in remission. However, Sarli et al. [1] published for the first time data indicating that IBD was associated with an abnormal heart rate reduction after the treadmill exercise test, but they did not compare parameters between patients in active disease and those in remission. The inflammatory burden of active disease differs from that in remission. A study comparing parameters in patients with active IBD with those in remission may help to elucidate the effect of inflammation on the HRR index.

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Reply

Inflammatory Bowel Diseases and Heart Rate Recovery

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Dear Editor,

We would like to thank Efe et al. for their interest in our paper. We investigated heart rate recovery (HRR) indices in patients with inflammatory bowel diseases (IBD) [1] and found that HRR indices were significantly impaired in patients with IBD [1]. We also showed that symptom duration was an independent predictor of impaired HRR indices in patients with IBD. They criticized that the effect of disease activity on HRR indices was not studied [2].

Disease and symptom severity vary in active IBD. A substantial proportion of patients with active disease would not be able to complete the exercise test because of physical inability associated with disease symptoms [2]. In a previous study, DeFilippis et al. [2] reported that in patients with IBD exercise intolerance is seriously impaired due to the relapsing and remitting nature of IBD. Hence, we planned to enroll only patients in remission.

References

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