Non-Pharmacological Treatment Approaches

In the article “The treatment of heart failure with reduced ejection fraction” by Berliner et al. (1), the evidence related to pharmacotherapy is presented in a comprehensive and very up-to-date fashion. In addition, device-based therapies and interventional procedures are critically discussed. We would like to draw the attention to another evidence-based treatment option for systolic heart failure: cardiac rehabilitation (“KardReha”).

Non-pharmacological treatment approaches, such as physical training, education on coping with the disease and improving treatment adherence as well as targeted psychosocial support are recommended in the guidelines of the specialist societies as “multidisciplinary management” for patients with systolic heart failure, supported by the highest level of evidence. (ESC 2016: IA, ACC/AHA 2017: IA) A current clinical practice (S3) guideline on cardiological rehabilitation in German-speaking areas of Europe (2) and the German National Disease Management Guideline Heart Failure (3) both recommend cardiac rehabilitation for patients with heart failure and reduced ejection fraction, again supported by the highest level of evidence.

Quite rightly, the authors point out that heart failure is also associated with a relevant reduction in quality of life (1). Current meta-analyses and a Cochrane Review demonstrate significant improvements in physical fitness and quality of life of these patients associated with participation in a cardiac rehabilitation program. Consequently, cardiac rehabilitation should be an integral component of the evidence-based treatment of heart failure with reduced ejection fraction, besides pharmacotherapy, device-based therapies and interventional procedures.

References


In Reply:

Many thanks for these helpful comments—we would like to comment on them as follows:

With regard to the blockade of the renin-angiotensin-aldosterone system (RAAS), PD Matthes addresses an important point: Evidence on its effect on the prognosis of patients with heart failure has primarily been established for ACE inhibitors. The available data on AT1 receptor antagonists (ARBs) are less conclusive (compare Table 2; [1]). Consequently, ACE inhibitors should be the preferred treatment for patients with heart failure; ARBs should only be used in patients with intolerance to ACE inhibitors, especially because of coughing. We also agree with the second point he makes: The combination of an ARB and a neprilysin...
inhibitor is a “compromise” in respect to the evidence related to RAAS inhibition. The underlying cause is the accumulation of bradykinin which is associated with an increased risk of severe angioedema in patients with simultaneous inhibition of ACE and neprilysin (see Box; [1]). The initially evaluated combination of ACE inhibitor and neprilysin inhibitor (substance name: omapatrilat), however, was not superior to enalapril in patients with heart failure (OVERTURE study)—unlike sacubitril/valsartan in the PARADIGM-HF trial. For this reason—and because of the significantly higher rates of angioedema in patients receiving omapatrilat (2)—this substance was not further investigated as a treatment for heart failure and is not approved for this indication.

Prof. Mertens addresses a key point in the treatment of patients with chronic heart failure: Many patients have (multiple) comorbidities—especially chronic renal failure which is common in daily clinical practice and of prognostic relevance. The administration of mineralocorticoid receptor antagonists (MRAs) increases the risk of hyperkalemia. Thus, the dose of spironolactone should only be increased to 50 mg/d in patients with intact renal function and/or if electrolyte levels are regularly monitored—especially in the light of the common concomitant administration of further RAAS inhibitors (ACE inhibitors, ARBs, sacubitril/valsartan). Otherwise, the low-dose regimen should be maintained or, if necessary, the dose should be further reduced. Here, it should be mentioned that the current guidelines of the European Society of Cardiology (ESC) recommend doses of spironolactone and eplerenone of up to 100 to 200 mg/d if no additional RAAS inhibitor is administered (3). According to our assessment, the dose of 50 mg/d should typically not be exceeded in the treatment of heart failure. In some cases, hyperkalemia associated with reduced renal function prevents dose escalation in the treatment of heart failure. In the future, this situation may improve with the use of enteral potassium binders, such as patiromer. However, further studies are needed to show that the administration of patiromer improves dose titration of heart failure medications and thus achieves relevant effects on prognosis.

In their letter, Dr. Langheim and Prof. Schwaab address the important point of cardiac rehabilitation. The related evidence has already been presented by them based on current international guidelines. Since our task was to write a CME article on pharmacotherapy and device-based therapies of heart failure, we have not specifically discussed rehabilitation, but we would like to emphasize here the importance of these measures.

In comparison with the treatments which we described in detail in our article, the available evidence on the treatment with diuretics is rather scarce. This is also highlighted by Dr. Burkhardt in his letter. During the review process of the CME article, the aim was to highlight treatments with sound evidence base. Not least due to the limited word count, it was necessary to focus the article on these therapies. Nevertheless, there is no doubt that diuretic therapy is of fundamental importance as a large portion of heart failure patients require treatment with diuretics. An excellent review was already cited in the comment (4). The supplement to the ESC’s 2016 guidelines for the diagnosis and treatment of acute and chronic heart failure (Web Table 7.7) provides a concise presentation of the use of diuretics which is very relevant for clinical practice (3).

References

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