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The need of personalized medicine and specific treatment in inflammatory cardiomyopathy to improve prognosis

Myocarditis and inflammatory cardiomyopathy (DCMi) are a challenging diagnosis due to the heterogeneity of clinical presentation which is highly variable and ranges broadly from subclinical symptoms to fulminant heart failure. Because the clinical course of myocarditis and DCMi is unpredictable and the non-invasive diagnostic tests – including ECG, echocardiography, MRI, and serological tests - are limited in their ability to make a clear cut diagnosis, all patients with clinically suspected myocarditis and DCMi have to undergo endomyocardial biopsy (EMB), before irreversible and thus untreatable damage to the myocardium has developed. Actually, the ESC working group on myocardial and pericardial diseases recommends in the statement position paper that in all patients fulfilling the diagnostic criteria for clinically suspected myocarditis selective coronary angiography and EMB should be performed.

Any rational and specific therapeutic regimen for DCMi must consider the underlying pathogenesis based on histological, immunohistological and virological evaluation of EMBs. The exact analysis and quantification of intramyocardial infiltrates as well as the characterization diagnosis of viral pathogens have been shown by multivariate regression analysis to be independent predictors of the clinical outcome. The phase of viremia, and the active replication, as well as the extent and quality of infiltration seems to precede the phase of target organ injury and future progression of the disease.

The mainstay of treatment for myocarditis and DCMi is an optimal heart failure medical regimen. Moreover, EMB is the basis for personalized immunosuppressive or antiviral treatment.

In virus-positive DCMi Interferon- β treatment is a well-tolerated and safe treatment option, leading to effective virus clearance in patients with coxsackie- and adenovirus-positive cardiomyopathy. Favourable clinical effects assess quality of life, NYHA functional class, patient global assessment and survival.

In case of biopsy-proven virus-negative inflammatory cardiomyopathy - based on an exact characterization and quantification of infiltrative cells - immunosuppressive therapy is an effective and safe option. Administered anti-inflammatory drugs are corticosteroids, azathioprine, and cyclosporine. Immunosuppressive treatment in virus-negative DCMi showed effectiveness and beneficial effects even after a long-term follow-up period.

In summary, any rational and immunomodulatory therapeutic regime for DCMi must consider the underlying pathogenesis based on histological, immunohistological and virological evaluation of EMBs. This is the basis for a rational, causal, personalized and specific therapy.

Biography

Heinz-Peter Schultheiss is a Professor of Internal Medicine and Cardiology. He is the CEO of Institute for cardiac diagnostic and therapy (IKDT) Berlin. From 1997 - 2000 he was the Chairman of the Medical Society Berlin. He is a Member of German Society for Internal Medicine and a Member of European Society of Cardiology

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