\textbf{Summary}

Overactivity of the sympathetico-adrenal system has been shown to play a role in the genesis of autonometrically mediated cardiovascular functional disorders and in increasing the outflow obstruction in hypertrophic (obstructive) cardiomyopathy. This fact provided the basis for trials with \textit{\textbeta}-adrenergic receptor blocking (\textit{\textbeta}-blocking) drugs in the treatment of these disorders.

Acute studies of the effects of these agents in hypertrophic cardiomyopathy, autonometrically mediated cardiovascular functional disorders and the dyspnoeic 'spells' in Fallot's tetralogy have given striking results. The drugs have reduced or abolished changes associated with sympathetic overactivity in these disorders, especially in patients who are mildly or moderately affected.

\textbf{Key Words}\textsuperscript{1}

Autonomic disorders
\textit{\textbeta}-Adrenergic receptor blocking drugs
Cardiomyopathy, hypertrophic
Cardiovascular functional disorders
Cyanosis
Fallot's tetralogy
Hyperkinetic heart syndrome
Nervous system, sympathetic
Pulmonary stenosis

\textsuperscript{1} See subject index in this issue for further indexing terms.
moderately affected. Long-term oral therapy with \( \beta \)-adrenergic receptor blocking agents has proved to be a valuable treatment in many patients suffering from symptoms of the above-mentioned disorders, particularly those with autonomic heart and circulatory disturbances. The most commonly used drug in these acute and long-term studies has been propranolol. However, there is no reason to believe that the therapeutic value of the other \( \beta \)-blockers (alprenolol, oxprenolol and pindolol) differs significantly from that of propranolol.

1. Introduction

As soon as the \( \beta \)-adrenergic receptor blocking (\( \beta \)-blocking) drugs became available a series of clinical studies of their effects in hypertrophic (obstructive) cardiomyopathy and the autonomic heart and circulatory disturbances was begun. Their use was prompted on the one hand by scientific interest, to increase the knowledge of the patho-physiology of these disorders, and on the other, by the need to find new therapeutic agents for their treatment.

The studies have given interesting information about the functional heart disorders and have clarified the role of sympathetic nervous system in the pathophysiology of these disorders. Initial findings in acute tests with \( \beta \)-blocking drugs suggested their potential clinical value in functional heart disorders. However, the therapeutic use of these agents in hypertrophic cardiomyopathy and autonomically mediated cardiovascular functional disorders has not been as widespread as might have been expected from the results of acute studies.

2. Hypertrophic (Obstructive) Cardiomyopathy

Brock described in 1957 a condition with functional obstruction of the left ventricle. In 1960 this disorder was named obstructive cardiomyopathy (Goodwin et al., 1960) and subsequently hypertrophic obstructive cardiomyopathy (Cohen et al., 1964) and idiopathic hypertrophic subaortic stenosis (Braunwald et al., 1960). In 1962, Wigle et al. suggested the use of the term ‘muscular subaortic stenosis’ to describe this myocardial obstruction of a functional nature. The myocardial hypertrophy appears to be a primary feature of the abnormal myocardial cell. Isoprenaline causes an increase in the apparent obstruction to flow from both ventricles (Braunwald and Ebert, 1962) and a rise in the left ventricular end-diastolic pressure. This abnormal response to sympathetic stimulation is an almost specific feature of the disorder. This fact provided a sound rationale for the treatment of hypertrophic cardiomyopathy with \( \beta \)-blocking drugs.