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Abstracts From the 59th Scientific Sessions

American Heart Association

Dallas Convention Center
November 17-20, 1986

Includes 40th Annual Meeting, Council on Arteriosclerosis/
American Society for the Study of Arteriosclerosis;
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American Heart Association

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1986  Dallas, Texas  
      November 17-20

1987  Anaheim, California  
      November 16-19

1988  Washington, D.C.  
      November 14-17

1989  New Orleans, Louisiana  
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1990  Dallas, Texas  
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Brief Summary
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Clinical Pharmacology: Dobutrex is a direct-acting inotropic agent whose primary activity results from stimulation of the f receptors of the heart while producing comparably mild chronotropic, hypertensive, arrhythmogenic, and vasodilative effects. It does not cause the release of endogenous catecholamine, as does dopamine. In animal and human studies, dobutamine produces less increase in heart rate and less decrease in peripheral vascular resistance than is seen with an inotropic effect that does not involve isoproterenol.

In patients with depressed cardiac function, both dobutamine and isoproterenol increase the cardiac output to a similar degree. In the case of dobutamine, this increase is usually accompanied by a marked increase in heart rate (although this is occasionally observed), and the cardiac stroke volume is usually increased. In contrast, isoproterenol increases the cardiac index primarily by increasing the heart rate while stroke volume changes little or declines.

Facilitation of atrioventricular conduction has been observed in human electrophysologic studies and in patients with atrial fibrillation.

Systemic vascular resistance is usually decreased with administration of dobutamine. Occasionally, minimum vasoconstriction has been observed.

The main difference between dobutamine and short-term isoproterenol is the occurrence of a rise in blood pressure, which is rarely seen with dobutamine.

Dobutrex is indicated in patients with diastolic hyperdynamic syndromes and in patients who have shown previous manifestations of hypersensitivity to Dobutrex.

Warnings: 1. Increase in Heart Rate or Blood Pressure—Dobutrex may cause a marked increase in heart rate or blood pressure, especially in hypotensive patients. Approximately 10% of patients in clinical studies have had rate increases of 30 beats/minute or more, and about 75% have had a 50-mm Hg or greater increase in systolic pressure. Reduction of dosage usually reverses these effects promptly. Because dobutamine facilitates atrioventricular conduction, patients with atrial fibrillation are at risk of developing rapid ventricular response. Patients with preexisting hypertension appear to face an increased risk of developing an exaggerated pressor response.

2. Ectopic Activity—Dobutrex may precipitate or exacerbate ventricular ectopic activity, but it rarely has caused ventricular tachycardia.

3. Hypersensitivity—Reactions suggestive of hypersensitivity associated with administration of Dobutrex, including rash, fever, eosinophilia, and bronchospasm, have been reported occasionally.

Precautions: 1. During the administration of Dobutrex, as with any adrenergic agent, ECG and blood pressure should be continuously monitored. In addition, pulmonary wedge pressure and cardiac output should be monitored whenever possible to aid in the safe and effective infusion of Dobutrex.

2. Hypotension should be corrected with suitable volume expanders before treatment with Dobutrex is instituted.

3. Animal studies indicate that Dobutrex may be ineffective if the patient has recently received a β-blocking drug. In such a case, the peripheral vasomotor response may increase.

4. No improvement may be observed in the presence of marked mechanical obstruction, such as severe valvular aortic stenosis.

Usage Following Acute Myocardial Infarction—Clinical experience with Dobutrex following myocardial infarction has been insufficient to establish the safety of the drug for this use. There is concern that any agent which increases contractile force and heart rate may increase the size of an infarction by intensifying ischemia, but it is not known whether dobutamine does so.

Usage in Pregnancy—Reproduction studies performed in rats and rabbits have revealed no evidence of impaired fertility or harm to the fetus, or teratogenic effects due to dobutamine. However, the drug has not been administered to pregnant women and should be used only when the expected benefits clearly outweigh the potential risks to the fetus.

Pediatric Use—The safety and effectiveness of Dobutrex for use in children have not been studied.

Drug Interactions—There was no evidence of drug interactions in clinical studies in which Dobutrex was administered concurrently with other drugs, including digitalis preparations, nifedipine, spironolactone, lidocaine, glyceryl trinitrate, isosorbide dinitrate, morphine, atropine, heparin, protamine, potassium chloride, folic acid, and acetylsalicylic acid. Preliminary studies indicate that the concomitant use of dobutamine and nitroprusside results in a higher cardiac output and, usually, a lower pulmonary wedge pressure than when either drug is used alone.

Adverse Reactions: Increased Heart Rate, Blood Pressure, and Ventricular Ectopic Activity—A 20-mm increase in systolic blood pressure and an increase in heart rate of 5 to 15 beats/minute have been noted in most patients. (See Warnings regarding exaggerated chronotropic and pressor effects.) Approximately 5% of patients who have had increased premature ventricular beats during infusions. These effects are dose related.

Miscellaneous Uncommon Effects—The following adverse effects have been reported in 1 to 3% of patients: headache, palpitations, dyspnea, chest pain, arrhythmias, and shortness of breath. No abnormal laboratory values attributable to Dobutrex have been observed.

Long-term Safety—Infections of up to 72 hours have revealed no adverse effects other than those seen with shorter infusions.

Overdose: In cases of overdose, as evidenced by excessive alteration of blood pressure or heart rate, Dobutrex, in either the form of administration or temporarily discontinued Dobutrex until the patient's condition stabilizes. Because the duration of action of Dobutrex is short, usual additional remedial measures are necessary.

Additional information available to the profession on request.

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Meetings Calendar

American Heart Association, Stroke Council; cosponsored by the Cerebrovascular Surgery Section of the American Association of Neurological Surgeons, the Canadian Stroke Society of the Canadian Heart Foundation, the Society for Vascular Surgery, and the American Neurological Association. Inquiries: American Heart Association, Administrative Assistant for Scientific Sessions, 7320 Greenville Ave, Dallas, TX 75231. Tel 214-706-1441.

March 5-7: Second International Interdisciplinary Conference on Hypertension in Blacks. Peachtree Plaza Hotel, Atlanta. Abstracts by Nov 1, 1986. Cosponsored by Emory University School of Medicine; Morehouse School of Medicine; National Medical Association; Association of Black Cardiologists; American Heart Association; Georgia Association for Primary Health Care; National Heart, Lung, and Blood Institute; and Searle Laboratories. Abstract inquiries: Cecile Cate, Conference Coordinator, Division of Hypertension, Emory University School of Medicine, 69 Butler St SE, Atlanta, GA 30303. Registration inquiries: Continuing Medical Education, Emory University School of Medicine, 110 WHSCAB, 1440 Clifton Rd NE, Atlanta, GA 30322. Tel 404-727-5695.

March 16-20: Postgraduate Institute for Emergency and Primary Care Physicians. University of California, San Diego. Sponsored by the University of California, San Diego School of Medicine. Inquiries: Office of Continuing Medical Education, University of California, San Diego School of Medicine, M-017, La Jolla, CA 92093. Tel 619-452-3940.


May 4-5: Postgraduate Institute for Emergency and Primary Care Physicians. Hotel Inter-Continental, San Diego, Calif. Sponsored by the University of California, San Diego School of Medicine. Inquiries: Office of Continuing Medical Education, University of California, San Diego School of Medicine, M-017, La Jolla, CA 92093. Tel 619-452-3940.


June 22-26: Postgraduate Institute for Emergency and Primary Care Physicians. Hanalei Hotel, San Diego, Calif. Sponsored by the University of California, San Diego School of Medicine. Inquiries: Office of Continuing Medical Education, University of California, San Diego School of Medicine, M-017, La Jolla, CA 92093. Tel 619-452-3940.


July 26-Aug 8: 13th Ten-Day Seminar on Epidemiology and Prevention of Cardiovascular Disease. Lake Tahoe, Calif. Darwin R. Labarthe, MD, PhD, seminar director. Sponsored by the American Heart Association, Council on Epidemiology. Inquiries: American Heart Association,
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