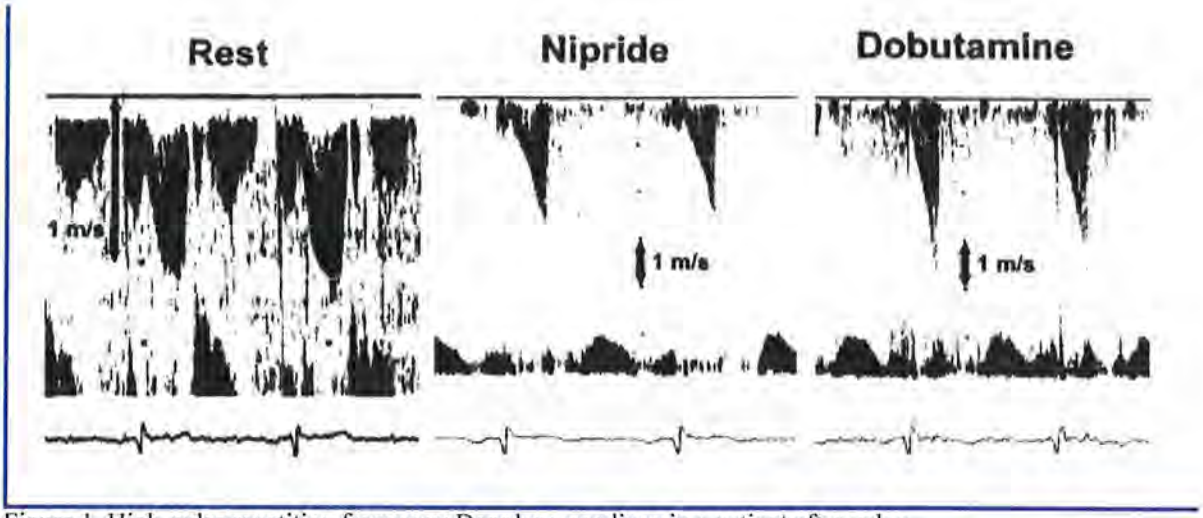

Figure 1. High-pulse repetition frequency Doppler recordings in a patient after valve replacement for aortic stenosis. Left, At baseline, a normal symmetric Doppler spectrum reaching 1 m/s was observed. Middle, During nipride, the afterload reduction was associated with a dagger-shaped Doppler spectrum peaking in late systole at 3 m/s. Right, Inotropic stimulation by dobutamine resulted in a similar intracavitary flow velocity pattern with a maximal velocity of 3.8 m/s.

Statistical Analysis

Results are expressed as mean plus/minus SD. Unpaired and paired t tests were used to compare appropriate data. Fisher's exact test was performed for comparison of categorical variables. One-way ANOVA, followed by Bonferroni's test, was performed for multiple comparisons. Sensitivity and specificity were calculated as usual. Multivariate analysis was performed separately on Doppler echocardiographic and catheterization data to detect their values in predicting postoperative AFV. Optimal diagnostic accuracy level for a given factor was defined as the value of the given factor at which sensitivity and specificity are equal. A value of P less or equal to .05 was considered significant.

Results

All patients underwent both preoperative and postoperative Doppler echocardiographic studies. The latter was performed 7 plus/minus 3 days (range, 2 to 10 days) after valve replacement. After surgery, nipride was given in 93 patients and dobutamine in 96 patients. Three patients did not receive nipride because of persistent hypotension (< 100 mm Hg). Four patients received neither nipride nor dobutamine because AFV was present at rest (> 3.7 m/s).

Hemodynamics

In the whole population, nipride induced a decrease in systolic pressure and an increase in heart rate (Table 1). Dobutamine infusion increased heart rate, whereas systolic blood pressure remained unchanged. Patients with resting AFV had significantly higher heart rates and lower systolic pressures at baseline and during dobutamine infusion compared with pati
resting AFV. A comparison of patients according to the pres

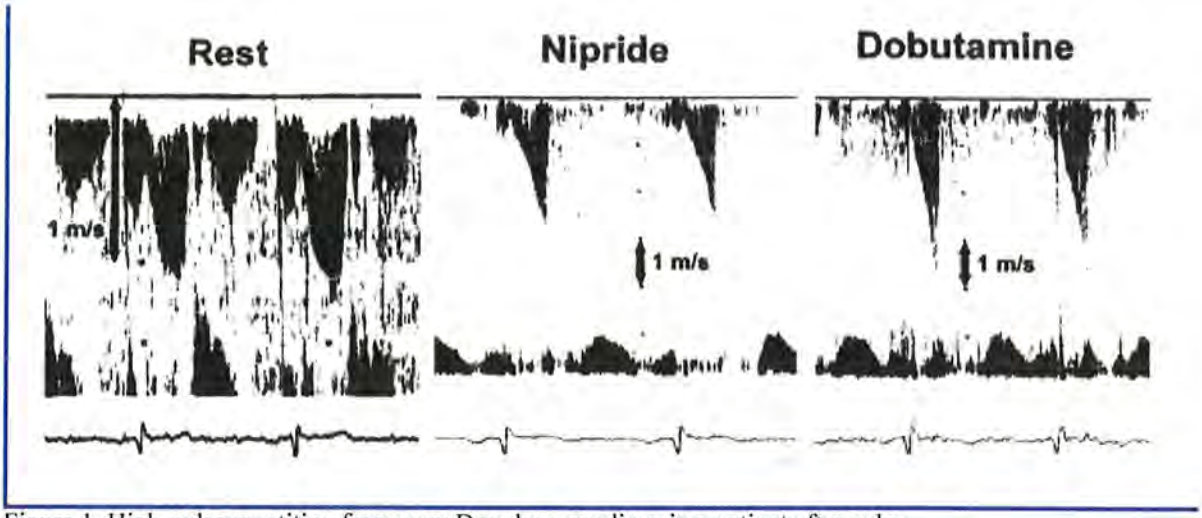

Figure 1. High-pulse repetition frequency Doppler recordings in a patient after valve replacement for aortic stenosis. Left, At baseline, a normal symmetric Doppler spectrum reaching 1 m/s was observed. Middle, During nipride, the afterload reduction was associated with a dagger-shaped Doppler spectrum peaking in late systole at 3 m/s. Right, Inotropic stimulation by dobutamine resulted in a similar intracavitary flow velocity pattern with a maximal velocity of 3.8 m/s.

Statistical Analysis

Results are expressed as mean plus/minus SD. Unpaired and paired t tests were used to compare appropriate data. Fisher's exact test was performed for comparison of categorical variables. One-way ANOVA, followed by Bonferroni's test, was performed for multiple comparisons. Sensitivity and specificity were calculated as usual. Multivariate analysis was performed separately on Doppler echocardiographic and catheterization data to detect their values in predicting postoperative AFV. Optimal diagnostic accuracy level for a given factor was defined as the value of the given factor at which sensitivity and specificity are equal. A value of P less or equal to .05 was considered significant.

Results

All patients underwent both preoperative and postoperative Doppler echocardiographic studies. The latter was performed 7 plus/minus 3 days (range, 2 to 10 days) after valve replacement. After surgery, nipride was given in 93 patients and dobutamine in 96 patients. Three patients did not receive nipride because of persistent hypotension (< 100 mm Hg). Four patients received neither nipride nor dobutamine because AFV was present at rest (> 3.7 m/s).

Hemodynamics

In the whole population, nipride induced a decrease in systolic pressure and an increase in heart rate (Table 1). Dobutamine infusion increased heart rate, whereas systolic blood pressure remained unchanged. Patients with resting AFV had significantly higher heart rates and lower systolic pressures at baseline and during dobutamine infusion compared with patients without resting AFV. A comparison of patients according to the presence or absence of