

Systematic Review of Beta Blocker Prophylaxis in Patients with a Family History of Cardiac Conditions

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Introduction

- β -blockers are one of the most widely used antihypertensive agents over the past 50 years.
- They can reduce blood pressure by suppressing epinephrine which can reduce heart rate and promote vasodilation.
- β -blockers are recommended in patients with cardiovascular disease (CVD).
- However, β -blockers can vary greatly in their receptor selectivity, vasodilatory properties, and sympathomimetic activity.
- Researchers thereby question their ability to effectively reduce the risk of CVD.
- This controversy led the team to question if patients with uncomplicated hypertension and family history of CVD could use β -blockers as a first-line therapy.

Objectives

To analyze the efficacy of β -blocker treatment prior to cardiovascular events in patients with or without cardiac vasospasm in patients with predisposing hypertension such as: Stroke, Renal Ischemia/Stenosis, Retinopathy, Hypertrophic Cardiomyopathy (HCM), Angina, Myocardial Infarction (MI)

Methods

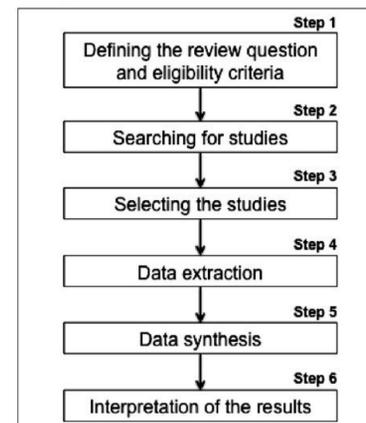
Selected Pathologies

- Stroke
- Renal Stenosis
- Angina
- Myocardial Infarction (MI)
- Retinopathy
- Esophageal varices - secondary to cardiac related pathologies
 - Cirrhosis and Portal Hypertension
- Exclusion Criteria
 - Acute patients
 - Patients with treatment post an episode
 - Patients with cancer
 - Patients with atherosclerosis

Publication Dates: 2000-Present

Search terms used

- “beta blocker prophylaxis for ‘selected pathology’”
- “beta blocker prevention for ‘selected pathology’”



Abstracts Only: 62.2% (23/37)

Full Text: 37.8% (14/37)

Demographics: All inclusive of Age, Gender, and Race

Databases used:

- Pubmed
- Ovid
- ncbi.nlm.nih.gov
- Google scholar
- Science Direct

Results

MI - n=5; 40% support BB usage to prevent MI, 40% inconclusive

CA Vasospasm- n=5; 40% did not support BB usage to prevent, 40% inconclusive

Stroke - n=5; 20% did not support BB usage to prevent, 60% inconclusive

Angina - n=5; 100% support use of BB

Renal Ischemia/Stenosis - n=7; 100% support use of BB

Retinopathy - n=2; 100% support use of BB

Hypertrophic Cardiomyopathy - n=4; 75% support use of BB

Acknowledgements

- RARS Research Pipeline Team
- Dr. Connolly

References

Available upon request

Conclusions

1. β -blockers proved to further exacerbate conditions like hypertension or ischemic necrosis of the myocardium.
2. β -blockers are often preferred treatment for patients with chronic stable angina.
3. More research is needed to prove that β -blocker prophylaxis would be warranted in pre-stroke patients.
4. β -blockers are infrequently preferred treatment for patients with coronary artery vasospasm and should be determined on a case by case basis
5. Atenolol has been researched abundantly and it was discovered that it is not as good at preventing the number of Myocardial infarctions as other classes of medicines. However more research needs to be done on newer β -blockers.
6. There is evidence to show that β -blockers, especially the nitric oxide donors (niprodilol, etc.) are effective in preventing renal ischemia.
7. There is some evidence to say that use of β -blockers protects against retinopathies, but more research has to be done.