

Vericiguat

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Pharma today

Overview: Vericiguat is a novel agent that belongs to a class of drugs called soluble guanylate cyclase (sGC) stimulators.

- It has earned recognition as the “Fifth Pillar” of Guideline Directed Medical Treatment (GDMT) for Heart Failure with reduced ejection fraction (HFrEF).
- It was the first oral (sGC) approved in US by FDA in January (2021) and later approved in India on February (2022), based on the results of pivotal phase III VICTORIA trial.

Victoria Trial

It was a global, randomized, double-blind, parallel study that evaluated the effectiveness of vericiguat in reducing cardiovascular death or hospitalization for heart failure in patient with chronic heart failure due to reduced ejection fraction (EF).

Trial Design

- Patients with symptomatic chronic HFrEF (LVEF < 45%) who have recent heart failure hospitalization or need IV diuretics.
- Randomization: Patient were randomized to receive vericiguat (n=2,5526) or placebo (n=2,524).
- Dosing: Vericiguat started at 2.5mg daily, increased to 5mg daily, and then 10mg daily.
- Follow-up: Patients were followed for a median of 10.8 months.
- Guideline-Directed Therapy: Patient were already receiving optimal heart failure therapy, including beta blockers, ACE Inhibitors/ARB

Mechanism of Action

Vericiguat directly stimulates the sGC receptor through a binding site which is independent of nitric oxide. It also increases sensitivity of sGC to endogenous nitric oxide by stabilizing the nitric oxide binding site leading to smooth muscle relaxation and vasodilation that may improve cardiac function.

Resistance concerns: There’s no current documented evidence of resistance or tolerance development to Vericiguat.

Embryo-Fetal Toxicity

Animal reproduction studies suggest that vericiguat may cause fetal harm to a pregnant woman.

Females of reproductive age are to be counselled on the potential hazard to a fetus. Clinicians should order pregnancy tests before treatment with vericiguat. Advise females to use contraception during treatment and at least one month after the final dose of vericiguat.

Drug-Drug Interactions

Administration of omeprazole with vericiguat reduces the absorption of vericiguat. Magnesium hydroxide and aluminum hydroxide also decreased the absorption of vericiguat. Drug-drug interaction study indicated that vericiguat is a suitable drug for managing patients with heart failure with multiple comorbidities requiring polypharmacy.