BlueCross BlueShield
Federal Employee Program

CORLANOR
(ivabradine)

RATIONALE FOR INCLUSION IN PA PROGRAM

Background

Corlanor (ivabradine) blocks the hyperpolarization-activated cyclic nucleotide-gated channel responsible for the cardiac pacemaker I_f current, which regulates heart rate. The cardiac effects are most pronounced in the sinoatrial (SA) node, but prolongation of the AH interval has occurred as has PR interval prolongation. There is no effect on ventricular repolarization and no effects on myocardial contractility (1).

Regulatory Status

FDA-approved indications: Corlanor is a hyperpolarization-activated cyclic nucleotide-gated channel blocker indicated: (1)

1. To reduce the risk of hospitalization for worsening heart failure in adult patients with stable, symptomatic chronic heart failure with left ventricular ejection fraction ≤35%, who are in sinus rhythm with resting heart rate ≥70 beats per minute and either are on maximally tolerated doses of beta-blockers or have a contraindication to beta-blocker use.
2. For the treatment of stable symptomatic heart failure due to dilated cardiomyopathy in pediatric patients ages 6 months and older.

Off Label Uses:

Recent studies have described a dramatic improvement in heart rate and postural orthostatic tachycardia syndrome (POTS)-related symptoms with Corlanor. Corlanor is a selective sinus node blocker, reducing firing rate without affecting blood pressure (2-3).

Corlanor must be titrated and adjustments are based upon resting heart rate and tolerability (1). Corlanor is contraindicated in patients with acute decompensated heart failure; clinically significant hypotension; sick sinus syndrome, sinoatrial block or 3rd degree AV block, unless a functioning demand pacemaker is present; clinically significant bradycardia; severe hepatic impairment; pacemaker dependence; or concomitant use of strong cytochrome P450 3A4 inhibitors (1).

Corlanor may cause fetal toxicity when administered to a pregnant woman based on findings in animal studies. Advise females of reproductive potential to use effective contraception when taking Corlanor (1).

Corlanor (ivabradine) increases the risk of atrial fibrillation. Regularly monitor cardiac rhythm. Discontinue Corlanor if atrial fibrillation develops. Bradycardia, sinus arrest and heart block have occurred with Corlanor. Risk factors for bradycardia include sinus node dysfunction, conduction defects (e.g., 1st or 2nd degree atrioventricular block, bundle branch block), ventricular dyssynchrony and use of other negative chronotropes (e.g., digoxin, diltiazem, verapamil, amiodarone). Concurrent use of verapamil or diltiazem will increase Corlanor exposure, may themselves contribute to heart rate lowering and should be avoided. Assess patient after two weeks and adjust dose to achieve a resting heart rate between 50 and 60 beats per minute. Corlanor is not recommended for use in patients with demand pacemakers set to rates of ≥ 60 beats per minutes (1).

The safety and efficacy of Corlanor have not been established in pediatric patients less than 6 months of age (1).

Summary

Corlanor blocks the hyperpolarization-activated cyclic nucleotide-gated channel responsible for the cardiac pacemaker I_f current, which regulates heart rate. The cardiac effects are most pronounced in the sinoatrial (SA) node, but prolongation of the AH interval has occurred as has PR interval prolongation. There is no effect on ventricular repolarization and no effects on myocardial contractility. The safety and efficacy of Corlanor have not been established in pediatric patients less than 6 months of age (1).

Prior approval is required to ensure the safe, clinically appropriate and cost-effective use of Corlanor while maintaining optimal therapeutic outcomes.

References

1. Corlanor [package insert]. Thousand Oaks, CA: Amgen Inc.; August 2021.
2. McDonald C, Frith J, and Newton J. Single centre experience of ivabradine in postural orthostatic tachycardia syndrome. *Europace.* 2011;13:427–430.
3. Nwazue VC et al. Postural tachycardia syndrome and inappropriate sinus tachycardia: role of autonomic modulation and sinus node automaticity. *Journal American Heart Assoc*. 2014;3(2):e000700.