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The only once-a-day beta-blocker for both hypertension and angina pectoris

CORGARD
nadolol tablets
40 mg, 80 mg, 120 mg, 160 mg scored tablets

CORGARD® TABLETS
Nadolol tablets
DESCRIPTION: Corgard (nadolol) is a synthetic nonselective beta-adrenergic receptor blocking agent.

CONTRAINDICATIONS: Bronchial asthma, sinus bradycardia and greater than first degree conduction block, cardiacogenic shock, and overt cardiac failure (see WARNINGS). CARDIAC FAILURE — Sympathetic stimulation may be a vital component supporting circulatory function in congestive heart failure, and its inhibition by beta-blockade may precipitate more severe failure. Although beta-blockers should be avoided in overt congestive heart failure, if necessary, they can be used with caution in patients with a history of failure who are well-compensated, usually with digitalis and diuretics. Beta-adrenergic blocking agents do not abolish the inotropic action of digitalis on heart failure. IN PATIENTS WITHOUT A HISTORY OF HEART FAILURE, continued use of beta-blockers can, in some cases, lead to cardiac failure; therefore, if first sign or symptom of heart failure, digitalize and/or give diuretics, and closely observe response, or discontinue nadolol (gradually if possible).

Ectopics of Ischemic Heart Disease Following Abrupt Withdrawal — Hypersensitivity to catecholamines has been observed in patients withdrawn from beta-blocker therapy; exacerabation of angina and, in some cases, myocardial infarction have occurred after abrupt discontinuation of such therapy. When discontinuing chronic use of nadolol, particularly in patients with ischemic heart disease, gradually reduce dosage over a 1- to 2-week period and carefully monitor the patient. Reinitiate nadolol promptly (at least temporarily) and take other measures appropriate for management of unstable angina if angina markedly worsens or acute coronary insufficiency develops. Warn patients not to interrupt or discontinue therapy without physician's advice. Because coronary artery disease is common and may be unrecognized, it may be prudent not to discontinue nadolol therapy abruptly even in patients treated only for hypertension.

Nonallergic Bronchoconstriction (e.g., chronic bronchitis, emphysema) — PATIENTS WITH BRONCHOSPASTIC DISEASES SHOULD IN GENERAL NOT RECEIVE BETA-BLOCKERS. Administer nadolol with caution since it may block bronchodilation produced by endogenous or exogenous catecholamine stimulation of beta receptors.

Major Surgery — Because beta-blockade impairs the ability of the heart to respond to reflex stimuli and may increase risks of general anesthesia and surgical procedures, resulting in protracted hypotension or low cardiac output, it has generally been suggested that such patients be withdrawn from beta-blocker therapy for a period of 1 to 2 weeks prior to surgery. Recognition of the increased sensitivity to catecholamines of patients recently withdrawn from beta-blocker therapy, however, has made this recommendation controversial. If possible, withdraw nadolol 2 weeks before surgery takes place. In the event of surgery due to be performed in the anesthesiologist who is aware of the patient on beta-blocker therapy. Use of beta-receptor agonists such as isoproterenol, dopamine, dobutamine, or levarterenol can reverse the effects of nadolol. Dibucaine and meprobamate, which in the past have been used to reverse beta-blockade, have also been reported to result from beta-adrenergic receptor blocking agents.

Diabetes and Hypoglycemia — Beta-adrenergic blockade may prevent the appearance of premonitory signs and symptoms (e.g., tachycardia and blood pressure changes) of acute hypoglycemia. This is especially important with diabetic patients. Beta-blockade also reduces release of insulin in response to hyperglycemia; therefore, it may be necessary to adjust doses of antidiabetic drugs.

Thyrotoxicosis — Beta-adrenergic blockade may mask certain clinical signs (e.g., tachycardia) of hyperthyroidism. To avoid abrupt withdrawal of beta-adrenergic blockade which might precipitate a thyroid storm, carefully manage patients suspected of developing thyrotoxicosis.

PRECAUTIONS: Impaired Hepatic or Renal Function — Use nadolol with caution in presence of either disease, or conditions (see DOSAGE AND ADMINISTRATION section of package insert).

Information for Patients — Warn patients, especially those with evidence of coronary artery disease, to avoid abrupt interruption or discontinuation of nadolol without physician's advice. Although cardiac failure rarely occurs in properly selected patients, advise patients being treated with beta-adrenergic blocking agents to consult physician at first sign or symptom of heart failure.

Drug Interactions — Catecholamine-depleting drugs (e.g., reserpine) may have an additive effect when given with beta-blocking agents. When treating patients with nadolol plus a catecholamine-depleting agent, carefully observe for evidence of hypotension and/or excessive bradycardia which may produce vertigo, syncope, or postural hypotension.

Cardiovascular, Malignant, Impairment of Fertility — In 1 to 2 year's oral toxicologic studies in mice, rats, and dogs, nadolol did not produce significant toxic effects. In 2-year oral carcinogenic studies in rats and mice, nadolol did not produce neoplastic, preneoplastic, or nonneoplastic pathologic lesions.

Pregnancy — In animal reproduction studies with nadolol, evidence of embryotoxic- and teratogenicity was found in rabbits (but not in rats or hamsters) at doses 5 to 10 times greater (on a mg/kg basis) than maximum indicated human dose; no teratogenic potential was seen in any of these species. There are no well-controlled studies in pregnant women therefore, use nadolol in pregnant women only if potential benefit justifies potential risk to the fetus.

It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, exercise caution when nadolol is administered to a nursing woman. Animal studies showed that nadolol is found in the milk of lactating rats.

Parenteral Administration — Safety and efficacy of intravenous and intramuscular administration have not been established.

ADVERSE REACTIONS: Most adverse effects have been mild and transient and have rarely required withdrawal.

Cardiac — Bradycardia with heart rates of less than 60 beats per minute occurs commonly, and heart rates below 40 beats per minute and/or symptomatic bradycardia were seen in about 2 of 100 patients. Symptoms of peripheral vascular insufficiency, usually of the Raynaud type, have occurred in approximately 2 of 100 patients. Cardiac failure, hypotension, and rhythm/conduction disturbances have each occurred in about 1 of 100 patients. Single instances of first degree and third degree heart block have been reported; interstitial fibrosis is a known effect of beta-blockers (see also CONTRAINDICATIONS, WARNINGS, and PRECAUTIONS). Central Nervous System — Dizziness or fatigue reported in approximately 2 of 100 patients; parasthesias, sedation, and dizziness in behavior reported in approximately 6 of 100 patients. Respiratory — Bronchospiun reported in approximately 1 of 100 patients (see CONTRAINDICATIONS and WARNINGS). Gastrointestinal — Nausea, diarrhea, abdominal discomfort, constipation, vomiting, indigestion, anorexia, bloating, and flatulence each reported in 1 to 5 of 1000 patients. Miscellaneous — Each of the following reported in 1 to 5 of 1000 patients: rash; pruritus; headache; dry mouth, eyes, or skin; impotence; decreased libido; facial swelling; weight gain; blurred speech, cough, nasal stuffiness; sweating; lassitude; blurred vision. Although relationship to drug usage is not clear, sleep disturbances have been reported. The ocularneuromuscular syndrome associated with propranolol has not been reported with nadolol.

Potential Adverse Effects: Although other adverse effects reported with other beta-adrenergic blocking agents have not been reported with nadolol, they should be considered potential adverse effects of nadolol. Central Nervous System — reversible mental depression progressing to catalepsy; visual disturbances; hallucinations; an acute reversible syndrome characterized by disorientation for time and place; short-term memory loss, emotional lability with slightly clouded sensorium, depressed performance on neurocognitive tests. Gastrointestinal — mesenteric arterial thrombosis; ischemic colitis. Dermatologic — Leukonychia striata; alopecia; petechiae. Allergic — fever combined with aching and sore throat; laryngospasm; respiratory distress. Miscellaneous — reversible alopecia; Peyronie's disease; erythematous rash. OVERDOSES: Nadolol can be removed from the general circulation by hemodialysis. In addition to gastric lavage, employ the following measures as appropriate. In determining duration of corrective therapy, take note of long duration of effect of nadolol.

Excessive Bradydysrhythmia — Administer atropine (0.25 to 1.0 mg). If there is no response to oral atropine, administer intravenously cautiously.

Cardiac Failure — Administer a digitalis glycoside and diuretic. It has been reported that glucagon may also be useful in this situation.

Hypertension — Administer vasopressors, e.g., dopamine or levaterenol. (There is evidence that epinephrine may be the drug of choice.

Bronchoconstriction — Administer a beta-stimulating agent and/or a theophylline derivative.

DOSAGE: For all patients, DOSAGE MUST BE INDIVIDUALIZED.

For angina pectoris, usual initial dose is 40 mg q.d.; gradually increase to 40 to 80 mg increments at 3 to 7 day intervals until optimum clinical response or pronounced slowing of the heart rate; usual maintenance dose is 80 to 240 mg q.d. (most patients respond to 160 mg q.d.); if treatment is discontinued, reduce dosage gradually over a period of 1 to 2 weeks (see WARNINGS). For hypertension, usual initial dose is 40 mg q.d.; gradually increase to 40 to 80 mg increments until optimum blood pressure reduction is achieved; usual maintenance dose is 80 to 320 mg q.d. (rarely, doses up to 640 mg may be needed). Patients with renal failure require adjustment in dosing interval — see package insert for dosage in these patients.

For full prescribing information, consult package insert.

HOW SUPPLIED: In scored tablets containing 40, 80, 120, or 160 mg nadolol per tablet in bottles of 100 and 1000 tablets and in Unisamp® single-dose packs of 100 tablets.
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Studies of metabolism of other formed blood elements and plasma constituents as they relate to vascular biology and disease.

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INDERAL ALONE: The ECG reads PAT...persistent sinus tachycardia...or persistent atrial extrasystoles. Consider INDERAL. For INDERAL aids resumption of normal sinus rhythm. By blocking cardiac beta-receptors from excessive catecholamine stimulation. By diminishing the rapid-firing rate of the SA node. And suppressing ectopic pacemakers.

INDERAL WITH: And when the ECG reads atrial flutter or fibrillation, but digitalis or quinidine fail to achieve the desired control—consider ADDING INDERAL. By slowing AV nodal conduction, INDERAL helps decrease the number of atrial impulses conducted to the ventricles, thus making possible the needed control. Adding INDERAL to either of these agents also permits lowering their dosages and diminishing their toxic effects. Perhaps more important, adding INDERAL to digitalis can obviate using quinidine—thereby avoiding quinidine's potential for enhancing digitalis toxicity.

INDERAL INSTEAD: Finally, in digitalis-induced arrhythmias that persist after the drug is discontinued and electrolyte imbalance is corrected—consider INDERAL INSTEAD. Except in the presence of congestive heart failure, INDERAL is often the drug of choice in abolishing such arrhythmias.

INDERAL is contraindicated in patients with bronchial asthma, allergic rhinitis during the pollen season, sinus bradycardia, greater than first degree heart block, and congestive heart failure (unless the failure is secondary to a tachyarrhythmia treatable with INDERAL). Please turn page for Brief Summary of Prescribing Information.
THE MOST WIDELY PRESCRIBED
BBE A BLOCKER IN THE WORLD.

INDERAL®
(propranolol HCI)
FOR SUPRAVENTRICULAR ARRYTHMIAS

BRIEF SUMMARY

FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR.

INDERAL is a BETA-adrenergic blocking agent.

BEFORE USING INDERAL, the physician should be thoroughly familiar with the basic concept of endogenous catecholamines (ALPHA and BETA) and the pharmacology of this drug.

CONTRAINDICATIONS: INDERAL is contraindicated in (1) bradycardia, atrial fibrillation, sick sinus syndrome, and greater than first degree block. (2) Cardiogenic shock, (3) right ventricular failure secondary to pulmonary hypertension. (4) congestive heart failure (see WARNINGS). (5) Patients on antihypertensive therapy with INDERAL. (6) Angina pectoris, MI, marked bradycardia, and myocardial ischemia. (7) In patients on sympathomimetic drugs (including MAO inhibitors), and other drugs with sympathomimetic activity and pressor effects. INDERAL acts selectively without abolishing the inotropic action of digitalis on the heart muscle (i.e., that of supporting the strength of myocardial contractions). In some patients receiving digitalis, the positive inotropic action of digitalis may be reduced by INDERAL's negative inotropic effect. The effects of INDERAL and digitalis are additive in depressing AV conduction.

IN PATIENTS WITHOUT A HISTORY OF CARDIAC FAILURE, continued depression of the myocardium over a period of time can, in some cases, lead to cardiac failure. In rare instances, this has been observed during INDERAL therapy. Therefore, at the first sign or symptom of impending cardiac failure, patients should be fully digitalized and given a digital, and the response observed closely. If cardiac failure continues, despite adequate digitalization and diuretic therapy, INDERAL therapy should be immediately withdrawn. If tachyarrhythmia is being controlled, patients should be maintained on combined therapy and the patient closely followed until threat of cardiac failure is over.

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina due to myocardial ischemia, in patients receiving INDERAL. Abrupt discontinuation of INDERAL therapy, therefore, should be avoided. Therefore, INDERAL should be increased gradually for at least 2 weeks. INDERAL has no effect on the inotropic action of digitalis; therefore, digitalis should be increased, if necessary, to maintain a normal myocardial response. If the heart rate is slowed by INDERAL, it may be prudent to follow the above advice. In patients considered at risk of having occult cardiac ischemia, cardiac failure should be closely observed if INDERAL is administered. The added catecholamine blocking action of INDERAL may produce an excessive reduction of the resting sympathetic nervous activity. The rate of administration should be increased slowly. INDERAL does not disturb thyroid function tests.

IN PATIENTS WITH WOLFPARR'S SYNDROME, several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case the result was a fatal outcome.

In patients with thyrotoxicosis, possible deleterious effects from long-term use have not been adequately evaluated. Special caution should be given to propranolol's potential for aggravating congestive heart failure. Propranolol may mask the clinical signs of developing or continuing hyperthyroidism and complications and thus be a false impression of improvement. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism. This is especially true if INDERAL is given for a short period. Patients receiving propranolol should be observed closely. INDERAL does not disturb thyroid function tests.

IN PATIENTS WITH HEART BLOCK, deepening of sinus bradycardia, AV block, and heart failure have been reported. Although certain cases of advanced heart block have been observed in patients receiving INDERAL, this has been observed during INDERAL therapy. Therefore, INDERAL is prescribed for angina pectoris, the patient should be cautioned against interrupting or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and exacerbation of angina occurs, it is advisable to restart therapy slowly. Propranolol does not disturb thyroid function tests.

IN PATIENTS WITH CHRONIC MYOCARDIAL INFARCTION, therapy should be increased gradually for at least 2 weeks. Adequate cardiac failure should be closely observed if INDERAL is administered. The added catecholamine blocking action of INDERAL may produce an excessive reduction of the resting sympathetic nervous activity. Therefore, INGERAL should be increased slowly. If the heart rate is slowed by INDERAL, it may be prudent to follow the above advice. In patients considered at risk of having occult cardiac ischemia, cardiac failure should be closely observed if INDERAL is administered. The added catecholamine blocking action of INDERAL may produce an excessive reduction of the resting sympathetic nervous activity. The rate of administration should be increased slowly. INDERAL does not disturb thyroid function tests.

OVERDOSAGE AND EXAGGERATED RESPONSE: IN THE EVENT OF OVERDOSE OR EXAGGERATED RESPONSE, THE FOLLOWING MEASURES SHOULD BE EMPLOYED:

1. BRADYCARDIA—ADMINISTER ATROPINE (0.25 to 1.0 mg) IF THERE IS NO RESPONSE TO VASOPRESSORS.

2. BRONCHOSPASM—ADMINISTER ISOPROTERENOL (10 to 20 mg every 2 to 4 minutes) OR AMINOPHYLLINE (10 to 40 mg/kg intravenously).

3. DIABETICS AND PATIENTS SUBJECT TO HYPOGLYCEMIA. Because of its beta-adrenergic blocking activity, INDERAL may prevent the appearance of postprandial symptoms (pulse rate and blood pressure changes) of acute hypoglycemia. This is especially important to keep in mind in patients with diabetes. Hypoglycemic attacks may be accompanied by a precipitous elevation of blood pressure.

For additional information, including box warning, see package insert.

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BRIEF SUMMARY

Indications: Hypertension, adjunctive therapy in edema.

Contraindications: Anuria, hypersensitivity to chlorothalidone or other sulfonamide-derived drugs.

Warnings: Should be used with caution in severe renal disease, impaired hepatic function or progressive liver disease. May add to or potentiate the action of other antihypertensive drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.

There is a possibility of exacerbation or activation of systemic lupus erythematosus with inclusions which are related to chlorothalidone. This has not been reported with chlorothalidone. Thrombosis occurs in the placental barrier and appears in cord blood. Use in pregnant women requires that the expected benefits of the drug be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. In nursing mothers, thalidomide crosses the placental barrier and appears in breast milk. If use of the drug is essential, the patient should stop nursing.

Precautions: Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals. All patients receiving chlorothalidone should be observed for clinical signs of fluid or electrolyte imbalance: namely, hypotension, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitalis may also influence serum electrolytes. Hypokalemia may develop with chlorothalidone as with any other diuretic, especially with brisk diuresis, when severe vomiting is present, or during concomitant use of corticosteroids or ACTH. Interference with adequate oral electrolyte intake will also contribute to hypokalemia. Diuretic therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity. Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Diuretic hypokalemia may occur in edematous patients in hot weather. Hypokalemia may occur or could be precipitated in certain patients. Isotonic requirements in diabetic patients may be increased, decreased, or unchanged and latent diabetes mellitus may become manifest. Chlorothalidone and related drugs may increase the responsiveness to tubocurarine. The antihypertensive effects of the drug may be enhanced in the postsympathectomy patient. Chlorothalidone and related drugs may decrease arterial responsiveness to noradrenaline. If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy. Chlorothalidone and related drugs may decrease serum PBI levels without signs of thyroid disturbance.

Adverse Reactions: Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestasis jaundice), pancreatitis, dizziness, vertigo, paraesthesia, headache, xanopsia, dyspnea, agranulocytosis, thrombocytopenia, aplastic anemia, purpura, photosensitivity, rash, urticaria, necrotizing angitis (vasculitis) (cutaneous vasculitis), Lyell's syndrome (toxic epidermal necrolysis). Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates or narcotics. Other adverse reactions include hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, impotence. Whenever adverse reactions are moderate or severe, chlorothalidone dosage should be reduced or therapy withdrawn.

Usual Dose: One tablet daily.

How Supplied: Tablets—100 mg. (white, scored), 50 mg. (white) in bottles of 100, 1000 and 5000, 25 mg. (peach) in bottles of 100 and 1000. Unit-dose blister packs, boxes of 100 (10 x 10 strips).
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All parameters (cardiac output, stroke volume, three blood pressures, blood temperature, heart rate, time of day) can automatically be measured periodically and printed when using “CARDIOMAX-II-R” with Columbus Instruments Automatic Injector and Printer.

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Reliable 24-hour beta blockade at all titrated dosages

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See next page for brief summary.
CORGARD® TABLETS

DESCRIPTION: Corgard (nadolol) is a synthetic nonselective beta-adrenergic receptor blocking agent.

CONTRAINdicATIONS: Bronchial asthma, sinus bradycardia and greater than first degree heart block, cardiac arrest, and overt cardiac failure (see WARNINGS). Corgard should not be used in patients with unstable angina or who are at risk of developing unstable angina due to beta-blockade which might precipitate a thyroid storm, carefully manage patients suspected of having hyperthyroidism. To avoid abrupt withdrawal of beta-adrenergic blocking agents, administer isoproterenol cautiously. Nadolol can be removed from the general circulation by hemodialysis.

INHIBITION OF VAGAL BLOCKADE, ADMINISTER ISOPROTERENOL CAUTIOUSLY.

Nadolol is not a sympathomimetic and may not have the same potential adverse effects as other beta-blockers. However, unlike other beta-blockers, nadolol may not have the same effect on the heart rate. The usual initial dose is 40 mg q.d.; gradually increase in 40 to 80 mg increments at 3 to 7 day intervals until target heart rate is achieved. If treatment is discontinued, reduce dosage gradually over a period of 1 to 2 weeks (see WARNINGS).

For hypertension, usual initial dose is 40 mg q.d.; gradually increase in 40 to 80 mg increments at 3 to 7 day intervals until blood pressure control is achieved. Usual maintenance dose is 80 to 320 mg q.d. (rarely, up to 640 mg may be needed). Patients with renal failure require adjustment in dosing interval — see package insert for details.

HOW SUPPLIED: In scored tablets containing 40, 80, 120, and 160 mg nadolol per tablet in bottles of 100 and 1000 tablets and in Unimatic® single-dose packs of 100 tablets.
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Studies of platelets and thrombogenesis as they relate to arteriosclerosis.
Aspects of lipid and lipoprotein metabolism and transport related to vascular biology and disease.
Studies of metabolism of other formed blood elements and plasma constituents as they relate to vascular biology and disease.
Connective tissue biochemistry and metabolism related to arteriosclerosis.
Epidemiologic, population, and genetic studies of arteriosclerosis, including studies of the interplay of risk factors (e.g., diabetes, hyperlipidemia, hypertension).
Studies of arteriosclerosis and its precursors in the young.
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Research on detection and quantification of arterial lesions in vivo in humans and animals.
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TO PUT THE BEAT BACK WHERE IT BELONGS...
INDERAL ALONE: The ECG reads PAT...persistent sinus tachycardia...or persistent atrial extrasystoles. Consider INDERAL. For INDERAL aids resumption of normal sinus rhythm. By blocking cardiac beta-receptors from excessive catecholamine stimulation. By diminishing the rapid-firing rate of the SA node. And suppressing ectopic pacemakers.

INDERAL WITH: And when the ECG reads atrial flutter or fibrillation, but digitalis or quinidine fail to achieve the desired control—consider ADDING INDERAL. By slowing AV nodal conduction, INDERAL helps decrease the number of atrial impulses conducted to the ventricles, thus making possible the needed control. Adding INDERAL to either of these agents also permits lowering their dosages and diminishing their toxic effects. Perhaps more important, adding INDERAL to digitalis can obviate using quinidine—thereby avoiding quinidine’s potential for enhancing digitalis toxicity.

INDERAL INSTEAD: Finally, in digitalis-induced arrhythmias that persist after the drug is discontinued and electrolyte imbalance is corrected—consider INDERAL INSTEAD. Except in the presence of congestive heart failure, INDERAL is often the drug of choice in abolishing such arrhythmias.

INDERAL is contraindicated in patients with bronchial asthma, allergic rhinitis during the pollen season, sinus bradycardia, greater than first degree heart block, and congestive heart failure (unless the failure is secondary to a tachyarrhythmia treatable with INDERAL).

Please turn page for Brief Summary of Prescribing Information.
THE MOST WIDELY PRESCRIBED BETA BLOCKER IN THE WORLD.

INDERAL® (PROPRANOLOL HCl) FOR SUPRAVENTRICULAR ARRHYTHMIAS

BRIEF SUMMARY

FOR FULL PRESCRIBING INFORMATION, SEE PACKAGE CIRCULAR

INDERAL® IS A BETA-ADRENERGIC BLOCKING AGENT

BEFORE USING INDERAL (PROPRANOLOL HYDROCHLORIDE), THE PHYSICIAN SHOULD BE THOROUGHLY FAMILIAR WITH THE BASIC CONCEPTS OF CARDIOVASCULAR RECEPTORS (ALPHA AND BETA), AND THE PHARMACOLOGY OF THIS DRUG

CONTRAINDICATIONS: INDERAL is contraindicated in 1) brachial asthma, 2) allergic menis to other beta blockers, 3) arrhythmogenic bradydysrhythmias, and greater than first degree block, 4) cardiogenic shock, 5) right ventricular failure secondary to pulmonary hypertension, 6) congestive heart failure (see WARNINGS), 7) patients on adrenergic-sensitizing psychotropic drugs (including MAO inhibitors), and of course, for the treatment of the tachyarrhythmias listed above, if not contraindicated for the concomitant treatment of other conditions. 8) INDERAL is contraindicated in patients on monoamine oxidase inhibitors, and during the two week withdrawal period from such drugs. 9) When taken in quantities greater than the recommended dose of 1 to 2 mg/kg, INDERAL may produce severe hypotension. 10) INDERAL is contraindicated in patients with a history of cardiac failure, or who have been prescribed INDERAL for the treatment of angina pectoris, or who have had a myocardial infarction within the previous six months.

WARNINGS: CARDIAC FAILURE: Sympathetic stimulation is a vital component supporting circulatory function in congestive heart failure, and INDERAL and digitalis are additive in depressing AV node conduction. INDERAL acts selectively without abolishing the inotropic action of digitalis on the heart muscle i.e. that of supporting the strength of myocardial contractions. In cases already receiving digitalis, the positive inotropic action of digitalis may be reduced by INDERAL's negative inotropic effect. The effects of INDERAL and digitalis are additive in depressing AV conduction.

IN PATIENTS WITHOUT A HISTORY OF CARDIAC FAILURE, continued depression of the myocardium over a period of time can, in some cases, lead to cardiac failure. In rare instances, this has been observed during INDERAL therapy. Therefore, at the first sign or symptom of impending cardiac failure, patients should be fully digitized and/or given a digital, and the response observed closely. If cardiac failure continues, despite adequate digitalization and diuresis, INDERAL therapy should be immediately withdrawn. If tachycardia is controlled, patients should be maintained on combined therapy and the patient closely followed until threat of cardiac failure is over.

IN PATIENTS WITH ANGINA PECTORIS, there have been reports of exacerbation of angina and, in some cases, myocardial infarction, following abrupt discontinuation of INDERAL therapy. Therefore, if discontinuance of INDERAL is planned the dosage should be gradually reduced (see WARNINGS). In addition, INDERAL is prescribed for angina pectoris, the patient should be cautioned against interruption or cessation of therapy without the physician's advice. If INDERAL therapy is interrupted and angina occurs, it is usually associated with a transient rise in blood pressure. INDERAL therapy and other measures appropriate for the management of unstable angina pectoris. Since coronary artery disease may be unrecognized, it may be prudent to follow the above advice in patients considered at risk of having occult atherosclerotic heart disease, who are given propranolol for other indications.

IN PATIENTS WITH THYROTOXICOSIS, possible deleterious effects from long term use have not been adequately studied. Special caution should be given to propranolol's potential for aggravating congestive heart failure. Propranolol may mask the clinical signs of developing, or continuing hyperthyroidism or complications and give a false impression of improvement. Therefore, abrupt withdrawal of propranolol may be followed by an exacerbation of symptoms of hyperthyroidism. The patient should be closely observed for such episodes. Propranolol does not disturb thyroid function tests.

IN PATIENTS WITH WOLFF-PARKINSON-WHITE SYNDROME. Several cases have been reported in which, after propranolol, the tachycardia was replaced by a severe bradycardia requiring a demand pacemaker. In one case the results after an initial dose of 5 mg propranolol in a patient with a history of attacks of atrial fibrillation followed. Therefore, INDERAL should be administered cautiously in patients with atrial fibrillation.

IN PATIENTS WITH ANGINA PECTORIS, the patient should be informed of the possible deleterious effects of propranolol in mild to moderate hypertension.

IN PATIENTS WITH ASTHMA, the use of beta blockers should be avoided. However, in patients with stable angina pectoris, bronchospasm requiring a beta blocker may occur. The intravenous administration of propranolol has not been evaluated adequately in the management of hypertension. The use of beta blockers during or following surgery is not recommended if the beta blocker is to be administered postoperatively. However, in cases of life-threatening cardiac arrhythmias, the use of beta blockers is indicated.

OVERDOSAGE OR EXAGGERATED RESPONSE: IN THE EVENT OF OVERDOSE OR EXAGGERATED RESPONSE, THE FOLLOWING MEASURES SHOULD BE EMPLOYED:

CARDIAC FAILURE—Digitalization and/or diuretics

HYPOTENSION—Vasoressors e.g., LEVARNEROL OR EPHEDRINE (THERE IS EVIDENCE THAT EPHEDRINE IS THE DRUG OF CHOICE)

BLOOD PRESSURE—ADMINISTRATION OF 0.25 ML TO 0.5 ML OF 10% 25% SOLUTION OF NEOMYCIN OR HEPARIN

HOW SUPPLIED: INDERAL (propranolol hydrochloride)

Ayerst Laboratories
New York, N.Y. 10017

7474/381
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The Council for High Blood Pressure Research of the American Heart Association will be holding its Annual Fall Conference September 23, 24 and 25, 1981 in Cleveland, Ohio. Previous meetings have been held in October.

Please note this change on your calendar.
Would you fly a plane with no name?

HyQrofon
(chlorthalidone USP)

BRIEF SUMMARY
Indications: Hypertension, adjunctive therapy in edema
Contraindications:
- Anuria
- Hypersensitivity to chlorthalidone or other sulfonamide-derived drugs.

Warnings:
- Should be used with caution in severe renal disease, impaired hepatic function or progressive liver disease. May add to or potentiate the action of other antihypertensive drugs. Sensitivity reactions may occur in patients with a history of allergy or bronchial asthma.
- There is a possibility of exacerbation or activation of systemic lupus erythematosus with thiazides, which are related to chlorthalidone. This has not been reported with chlorthalidone.
- Thiazides cross the placental barrier and appear in cord blood. Use in pregnant women requires that the anticipated benefits of the drug be weighed against possible hazards to the fetus. These hazards include fetal or neonatal jaundice, thrombocytopenia, and possibly other adverse reactions which have occurred in the adult. In nursing mothers, thiazides cross the placental barrier and appear in breast milk. If use of the drug is essential, the patient should stop nursing.

Precautions:
- Periodic determination of serum electrolytes to detect possible electrolyte imbalance should be performed at appropriate intervals. All patients receiving chlorthalidone should be observed for clinical signs of fluid or electrolyte imbalance: namely, hypokalemia, hyponatremia, hypochloremic alkalosis, and hypokalemia. Serum and urine electrolyte determinations are particularly important when the patient is vomiting excessively or receiving parenteral fluids. Medication such as digitals may also influence serum electrolytes. Hypokalemia may develop with chlorthalidone as with any other potent diuretic, especially with brisk diuresis, when severe cirrhosis is present, or during concomitant use of corticosteroids or ACTH. Interference with adequate oral electrolyte intake may increase the response to hypokalemia. Diuresis therapy may exaggerate metabolic effects of hypokalemia especially with reference to myocardial activity. Any chloride deficit is generally mild and usually does not require specific treatment except under extraordinary circumstances (as in liver disease or renal disease). Diurnal hypotension may occur in edematous patients in hot weather. Hyperuricemia may occur or gout be precipitated in certain patients. Insulin requirements in diabetic patients may be increased, decreased, or unchanged and latent diabetes mellitus may become manifest. Chlorthalidone and related drugs may decrease arterial responsiveness to nor-epinephrine. If progressive renal impairment becomes evident, as indicated by a rising nonprotein nitrogen or blood urea nitrogen, a careful reappraisal of therapy is necessary with consideration given to withholding or discontinuing diuretic therapy. Chlorthalidone and related drugs may decrease serum PBI levels without signs of thyroid disturbance.

Adverse Reactions:
- Anorexia, gastric irritation, nausea, vomiting, cramping, diarrhea, constipation, jaundice (intrahepatic cholestatic jaundice), pancreatitis, dizziness, vertigo, paresthesias, headache, xanthopsia, leukopenia, agranulocytosis, thrombocytopenia, aplastic anemia; purpura, photosensitivity, rash, urticaria, necrotizing angiitis (cutaneous vasculitis), Lyell's syndrome (toxic epidermal necrolysis). Orthostatic hypotension may occur and may be aggravated by alcohol, barbiturates or narcotics. Other adverse reactions include hyperglycemia, glycosuria, hyperuricemia, muscle spasm, weakness, restlessness, impotence. Whenever adverse reactions are moderate or severe, chlorthalidone dosage should be reduced or therapy withdrawn.

Usual Dose:
- One tablet daily

How Supplied:
- Tablets—100 mg (white, scored), 50 mg (aqua) in bottles of 100, 1000, and 5000; 25 mg. (peach) in bottles of 100 and 1000; unit-dose blister packs, boxes of 100 (10 x 10 strips)

Specify
Hygroton 50
one a day
(chlorthalidone USP)

Because there is something in a name: Confidence. Prescribe Hygroton by name and make sure your patients receive what you prescribe—write "Dispense as written" on your Rx or sign in the appropriate place.

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(chlorthalidone USP)

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