

Pharmacist-To-Dose Dofetilide (Tikosyn®)

for Medication Initiation in Atrial Fibrillation Patients

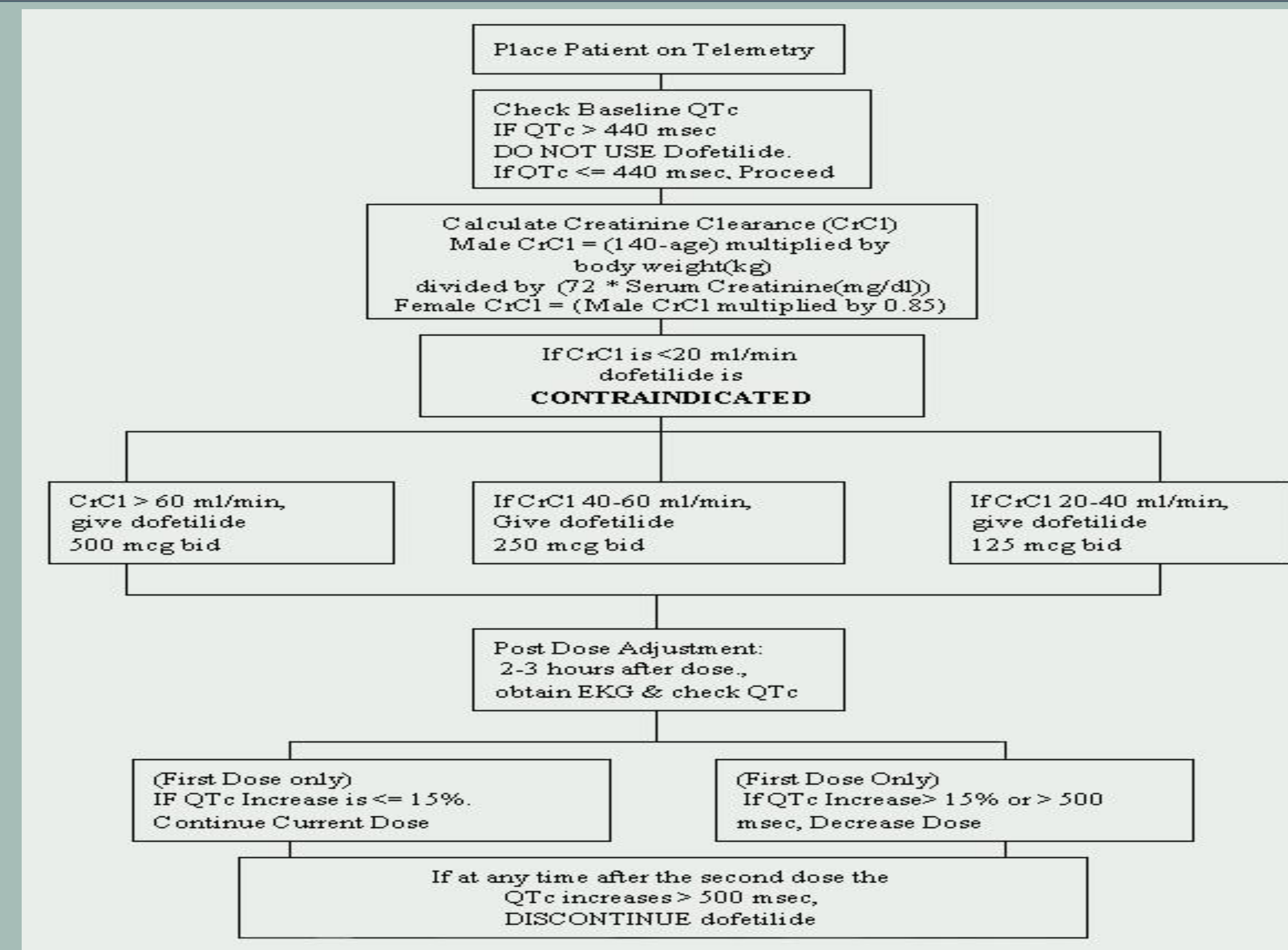
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Program Description

Dofetilide (Tikosyn®) is a Class III antiarrhythmic agent used to treat patients with atrial fibrillation and/or atrial flutter. Accurate dosing upon initiation of this medication is essential to prevent an accidental induced arrhythmia secondary to a prolongation of the QTc interval. A pharmacist-to-dose order set was created to assist physicians upon ordering of dofetilide (Tikosyn).

Methods

The order set guides the consulted pharmacist to verify the physician is an approved prescriber, evaluate the patient specific medication profile for drug interactions and to assess the baseline QTc to ensure the patient is not contraindicated for treatment with dofetilide (Tikosyn®). Once appropriateness of treatment is determined, the initial dose is calculated by the pharmacist based on the patient's estimated creatinine clearance using the Cockcroft-Gault equation. The pharmacist also ensures the proper laboratory and diagnostic monitoring orders are in place. Once dofetilide (Tikosyn®) has been initiated, the pharmacist in conjunction with the prescribing physician will evaluate each resulted QTc to ensure that continuation of the treatment at the prescribed dose is appropriate. If a dose adjustment is required, the pharmacist will contact the physician to discuss the patient case. The pharmacist will also assist in monitoring of electrolytes and ensures appropriate replacement has been administered as indicated.



1. Only Physicians on the Tikosyn Prescriber Registry may order this agent.
2. Verify the patient has not taken verapamil (Isoptin/Calan), ketoconazole (Nizoral), cimetidine (Tagamet), trimethoprim Trimplex), trimethoprim/sulfamethoxazole (Bactrim), megestrol (Megace), prochlorperazine (Compazine) or any Class I or Class III anti-arrhythmic within the last 3 days. ____ Yes ____ No
3. Assess the baseline QTc interval. Is patient appropriate for dofetilide therapy? *Tikosyn is contraindicated if the QTc is >440 msec (500msec in patients with ventricular conduction abnormalities).* Baseline QTc _____ msec

SPECIAL INSTRUCTIONS:

Pharmacist to calculate Tikosyn (dofetilide) dose

- a. Diagnosis: Atrial fibrillation
- b. ☐ Telemetry ☐ Admit to 6th floor/CCU
- c. Physician Service: _____

LABORATORY:

- a. Chemistry 7, Magnesium, Calcium daily X 3 days
- b. Other _____

DIAGNOSTIC MONITORING:

- a. Continuous ECG monitoring until discharge.
- b. Baseline 12-lead ECG prior to initiation of Tikosyn and ECG 2 hours **after any Tikosyn (dofetilide) dose administration.**

DIET:

- a. Cardiac Prudent
- b. Diabetic diet _____ calories
- c. Other _____

PATIENT CARE:

- a. Obtain data for pharmacy on admission
- b. Weight _____ Pounds
- c. Height _____ Inches
- d. Serum Creatinine _____ mg/dL
- e. Daily Chem 7, Magnesium, Calcium
- f. Other _____

CONTINUOUS IV INFUSIONS

- a. _____ at _____ ml/hour
- b. As needed adapter for IV meds
- c. Saline flushes every 8 hours per protocol.

MEDICATIONS

Pharmacy to calculate **initial** Tikosyn (dofetilide) dose. Calculated creatinine clearance _____ ml/min.

- ☐ CrCL > 60 ml/min: **Tikosyn 500 mcg PO BID**
- ☐ CrCL 40-60 ml/min: **Tikosyn 250 mcg PO BID**
- ☐ CrCL 20-40 ml/min: **Tikosyn 125 mcg PO BID**
- ☐ CrCL < 20 ML/min: **CONTACT PHYSICIAN**

PRN Medications

20 mEq KCl in 100 ml sterile water over 2 hours for Potassium level < 4.0mEq/L. Repeat potassium level in one hour.
2 grams magnesium Sulfate over 1 hour for magnesium level < 2mEq/L. Repeat magnesium level in one hour.
2 grams calcium gluconate in 100 ml 0.9 % NS over 1 hour for calcium level 3.5-3.9mg/dL. Repeat calcium in one hour.

ADDITIONAL ORDERS

Pharmacist will **NOT** initiate Tikosyn dosing if QTc > 440 milliseconds unless otherwise directed by Cardiology.

Transferability

Development of a pharmacist-to-dose order set within any institution requires careful education of the pharmacy staff and a physician champion to lead the initiative. This type of service is otherwise easily transferable for most inpatient settings. Within the OhioHealth network, this order set and pharmacist-to-dose program, which was started at one institution, has been implemented across the system with multiple sites.

Conclusion

The accuracy of initiation of dofetilide (Tikosyn®) therapy is extremely important to maintain patient safety and prevent adverse drug effects. The impact of this initiative could be life-saving for a patient. Since the initiation of this program, OhioHealth began using a electronic integrated medical record with a computerized order entry program. With the new program, the paper order set was made electronic within the order set functionality. The pharmacist is now electronically consulted on all patients that are initiated on dofetilide (Tikosyn®). The role of the pharmacist in the management of these patients has not changed.

Reference

1. Tikosyn® [package insert]. New York, NY: Pfizer Inc; January 2014.

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