

# Outpatient IV Sotalol Load Used to Replace Oral Sotalol Hospital Admission

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## PURPOSE

To describe the first use of IV Sotalol loading to allow outpatient Sotalol initiation.

## BACKGROUND

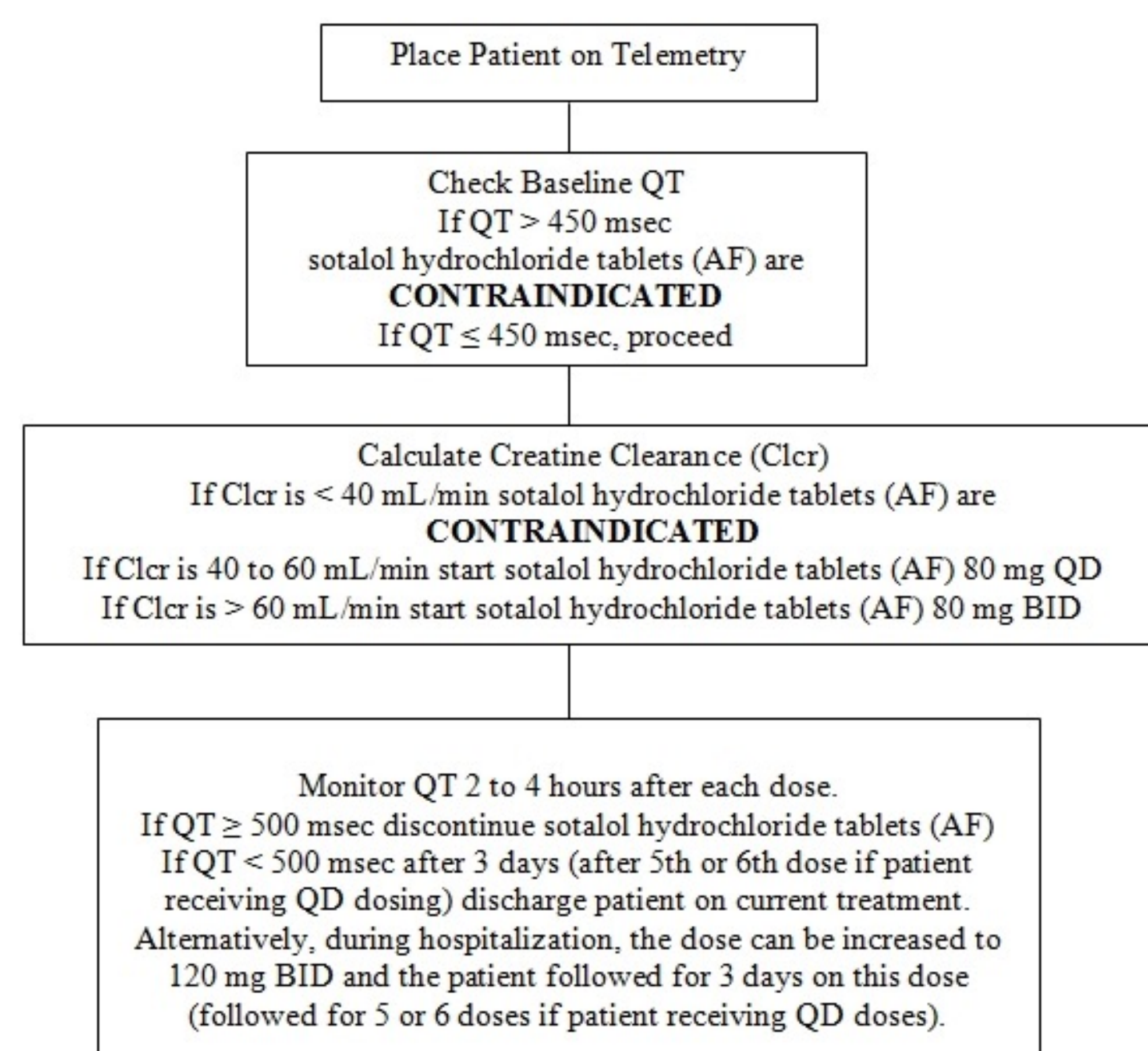
Atrial arrhythmias such as intraatrial reentrant tachycardia or atrial fibrillation are commonly seen in patients with congenital heart disease, and are even more prevalent in older adults.

Sotalol can be a safe and effective way to treat these and other arrhythmias secondary to its beta receptor and potassium channel blocking effects.

Unfortunately, due to its proarrhythmia risk and associated lengthening of the QT interval, initiating Sotalol currently requires hospitalization and monitoring for a recommended 3 day admission.

These admission have downsides including substantial costs, additional hospital admissions, time away from work/school, and delay in peak medication effectiveness.

**Fig. 1:** Current recommendations for Sotalol initiation



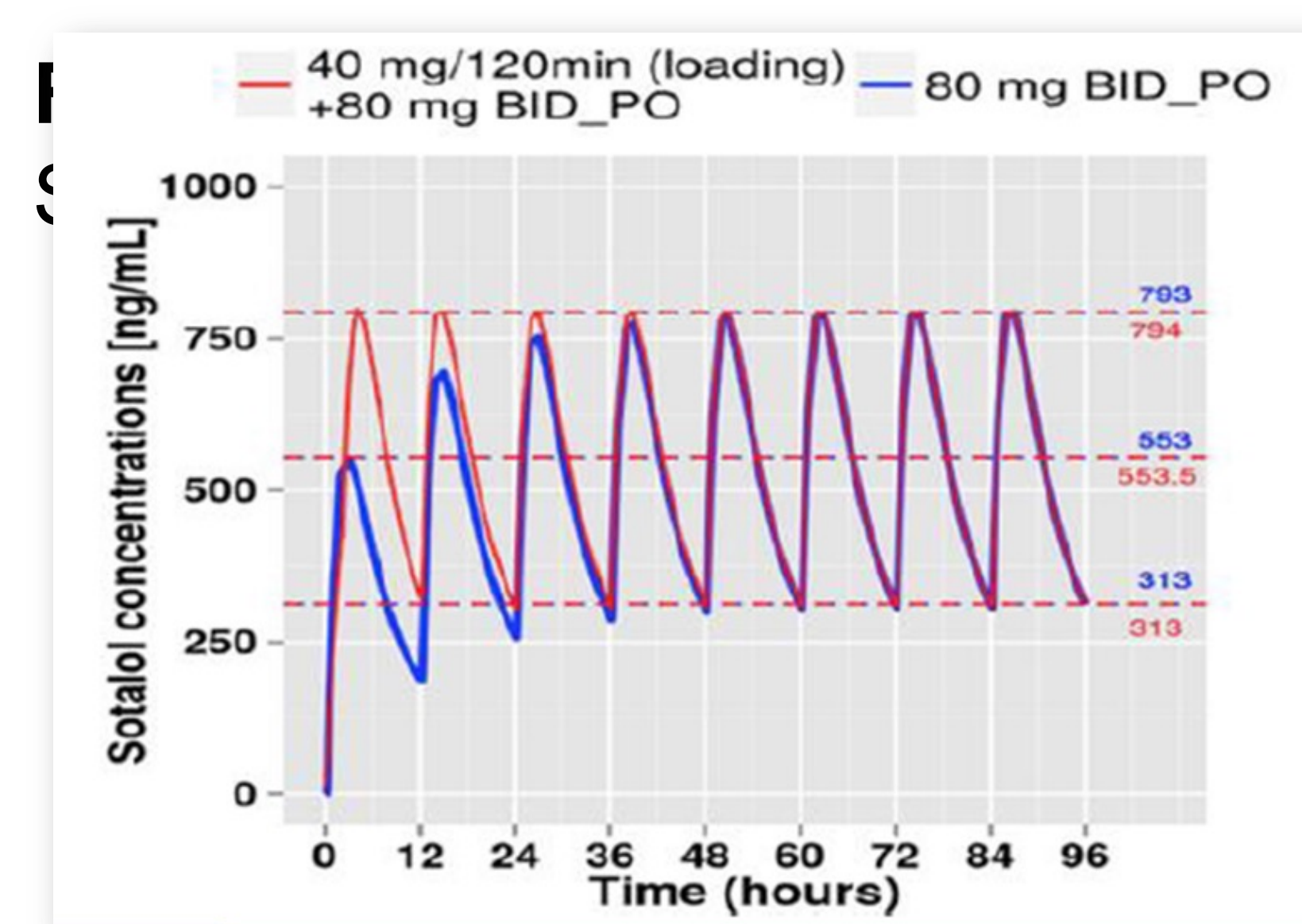
**Recommended 3 day admission**

## IV Sotalol Experience

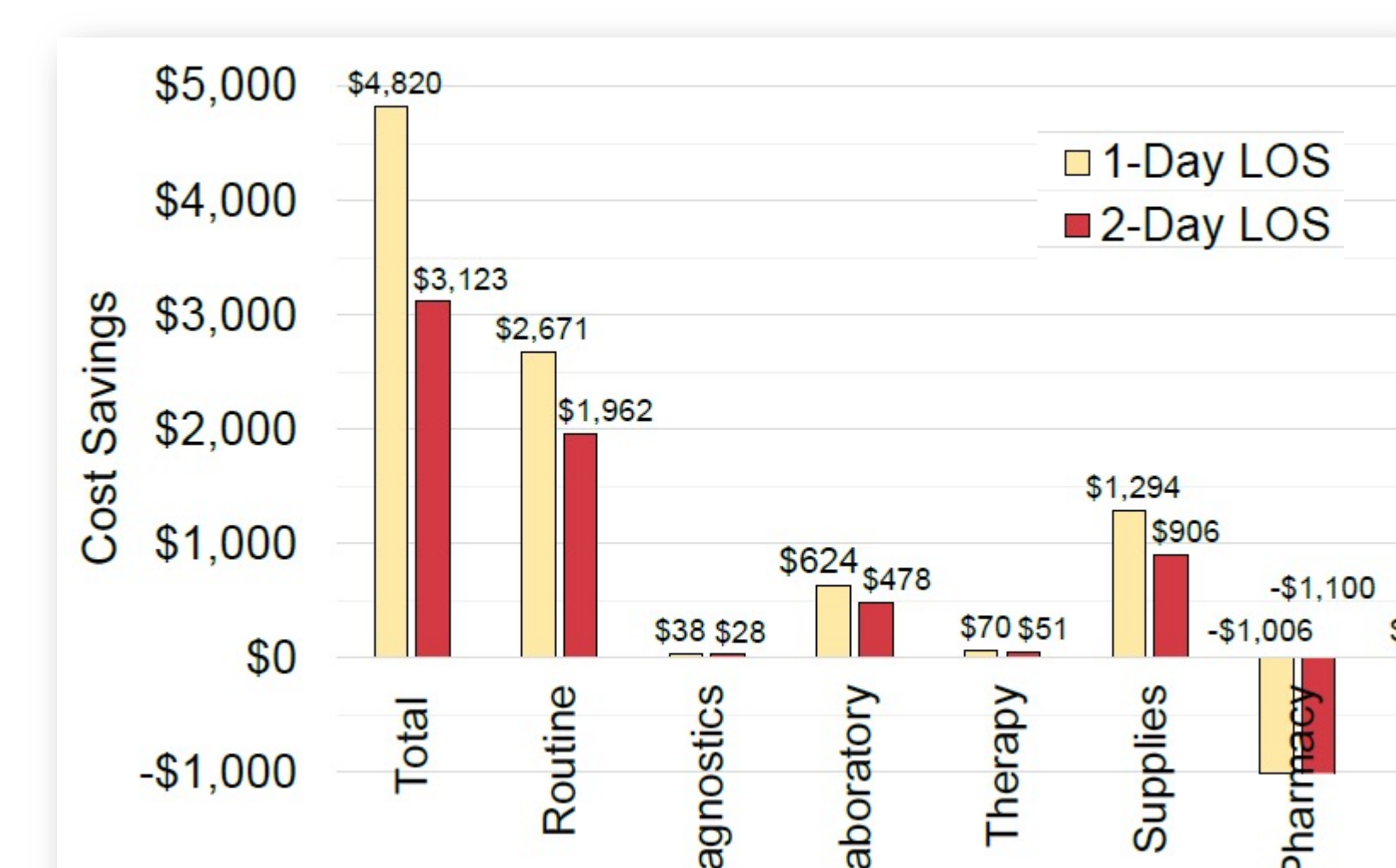
Infusion rate depends on indication for use:

For life-threatening arrhythmias:  
Deliver over 30 minutes for initiation

As a replacement for oral therapy:  
Infusion rate over 5 hours



**Fig. 3:** Cost-Analysis of IV Sotalol Loading (from Tang et al)



## Case Report

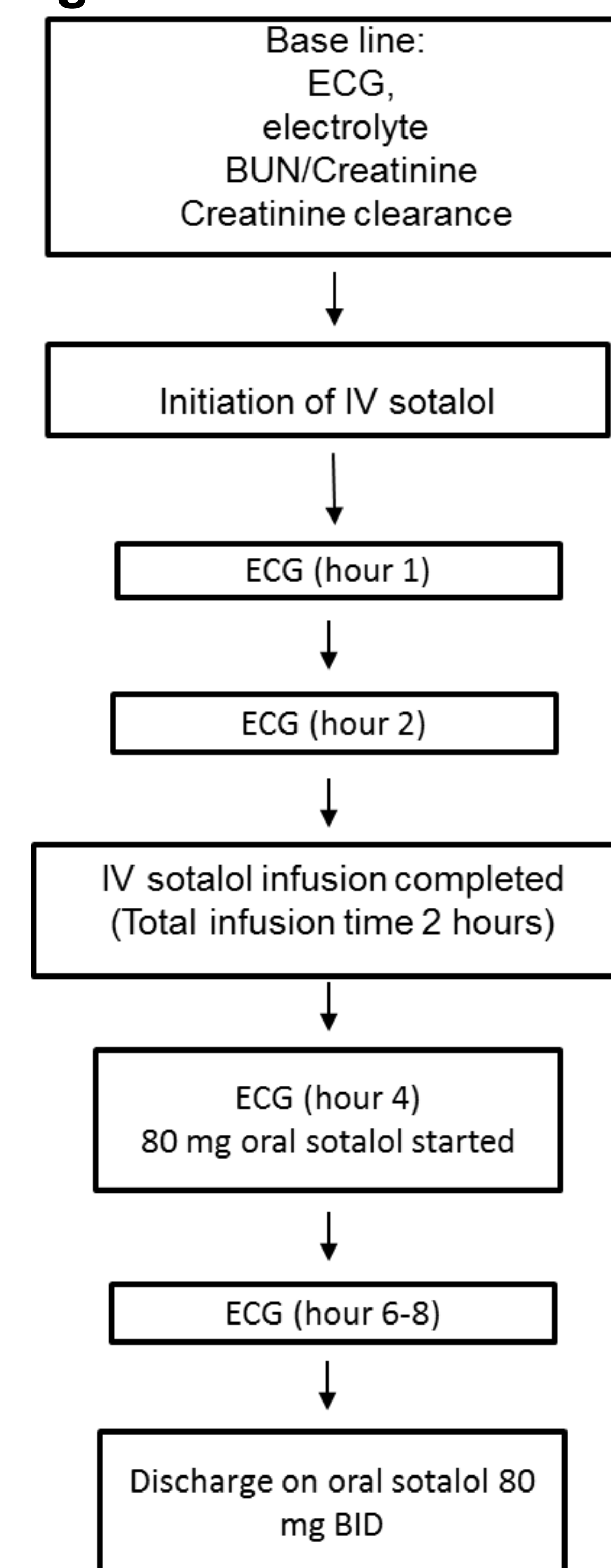
- Adult male with Shone's complex (congenital aortic stenosis and mitral valve disease).
- History of multiple surgeries with residual disease.
- A history of atrial arrhythmias (IART) with partial improvement after ablation and beta blockers.
- Concurrent psychiatric concerns including severe anxiety. He refused to stay overnight in the hospital and did not desire another EP study.

## Case Report

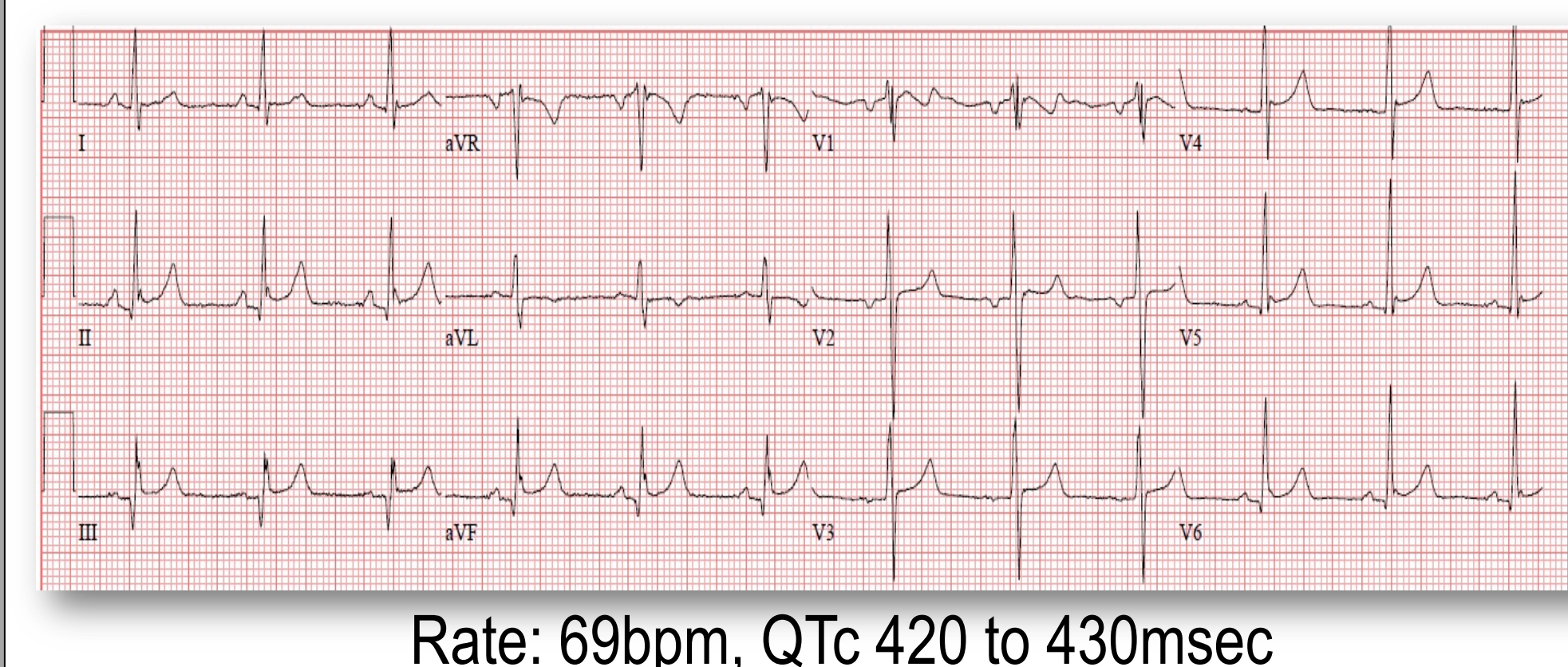
An outpatient IV Sotalol load (single day monitoring) with transition to oral Sotalol was discussed.

Consent was obtained and the patient was observed in a hospital unit with telemetry.

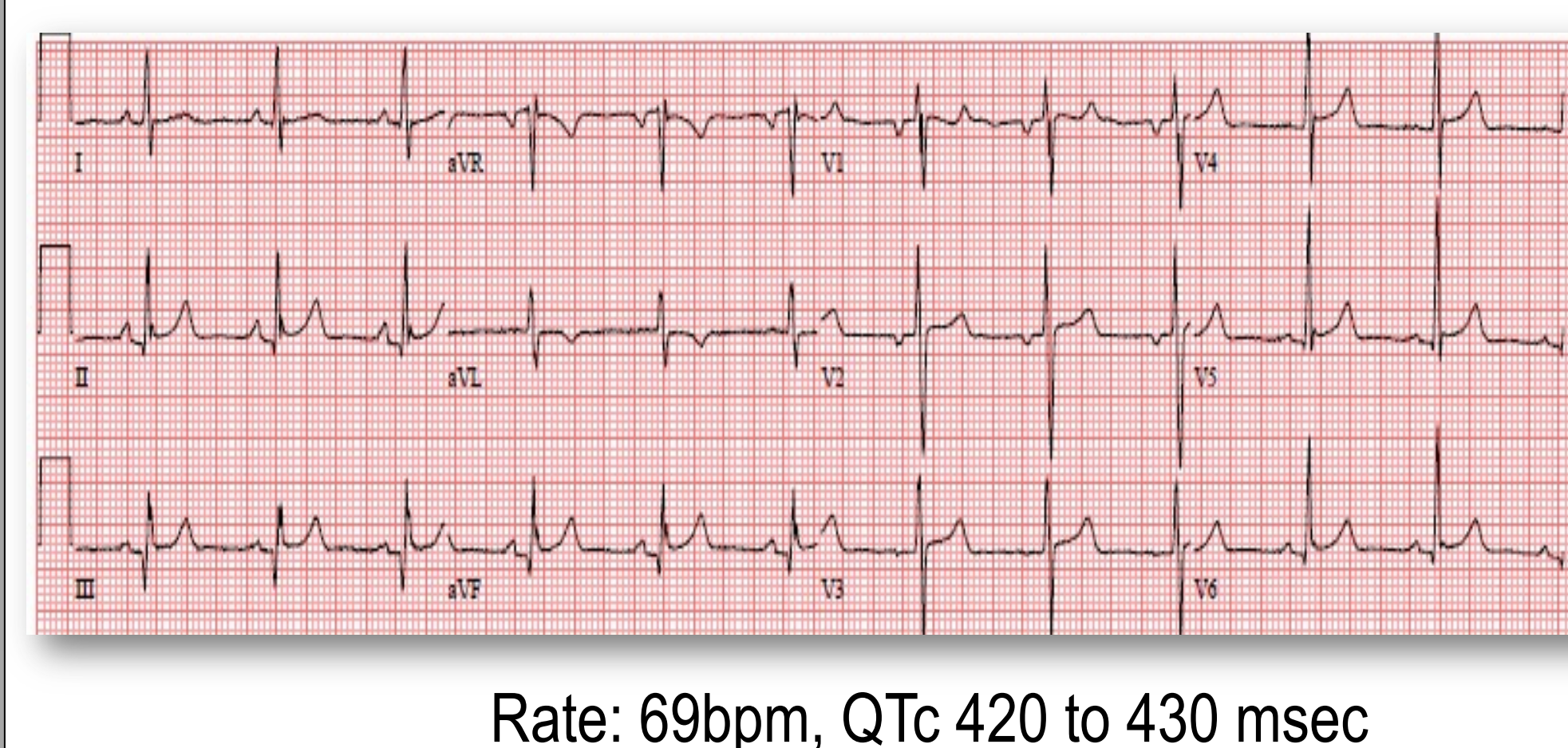
**Figure 4:** Our Protocol



**Figure 5:** Baseline ECG



**Figure 6:** ECG post Sotalol infusion



- The longest QTc was 430 msec.
- No symptoms or complications
- Discharged home on 80 mg oral Sotalol BID.
- Since starting Sotalol, the patient has done well with minimal palpitations.

## DISCUSSION

IV Sotalol rapidly reaches steady state so could theoretically replace the prolonged monitoring period recommended for an oral Sotalol load.

The IV/PO Sotalol load given to our patient was expected to provide a similar steady state as a typical 3-day oral load of Sotalol 80 mg BID.

The unique factors of patient preference, psychological concerns, arrhythmia burden, and congenital heart disease prompted the use of IV Sotalol for a single day Sotalol load.

Potential advantages of outpatient IV Sotalol loading include reduction in hospital admission days, reduction in length of time required for monitoring, reduction of hospital and patient cost, reduction of patient of time/costs.

## CONCLUSION

This is the first description of IV Sotalol loading to allow a single day outpatient admission for Sotalol initiation.

Further evaluation should be considered given the potential advantages

## REFERENCES

- 1) Tang et al, Cost-Minimization Analysis of Atrial Fibrillation and Atrial Flutter through Intravenous Sotalol Loading, Poster, March 2018, ACC
- 2) Pharmacokinetic Modeling Data (University of Maryland School of Pharmacy Center for Translational Medicine)
- 3) Ho DS, Zecchin RP, Cooper DA, Richards AB, Uther JB, and Ross L. Rapid intravenous infusion of d-1 sotalol: time to onset of effect on ventricular refractoriness, and safety. European Heart Journal 1995;16:81-86.