**Patient Safety: Drug Induced Cardiovascular Disease**

At the conclusion of this lecture the successful learner will be able to:

* Identify heart block
* Differentiate between 1st, type-1 2nd, type-2 2nd, and 3rd degree AV block
* Describe the drugs and dietary supplements that can cause heart block and what to do if drug induced heart block occurs acutely and chronically
* Identify QTc interval prolongation and describe how much of an elevation dramatically enhances the risk of Torsade de Pointes
* Describe drugs and dietary supplements that may prolong QTc interval and interventions for acute Torsade de Pointes or chronic QTc interval prolongation
* Apply knowledge to a patient relevant case

1. **Using the rhythm strip below, what is the PP interval and the RR interval in seconds?**



1. PP interval = 0.52 s, RR interval = 1.44 s
2. PP interval = 1.44 s, RR interval = 0.52 s
3. PP interval = 0.73 s, RR interval = 0.73 s
4. **What arrhythmia is shown on this rhythm strip?**



1. First degree AV block
2. Third degree AV block
3. Torsade de Pointes
4. **Which of the following rhythm issues is unlikely to be induced by a drug that blocks the AV node?**
5. First degree AV block
6. Type I second degree AV block
7. Type II second degree AV block
8. **Which of the following drugs is least likely to cause drug induced AV block**
9. Amlodipine
10. Metoprolol
11. Digoxin
12. **If a patient has symptomatic heart block due to the use of drugs that can induce heart block, which of the following can be used to treat it?**
13. Gabapentin
14. Propranolol
15. Atropine
16. **Using the rhythm strip below, what is the QT interval, RR interval, and QTc interval in seconds?**



1. QT interval = 0.66, RR interval = 0.85, QTc interval = 0.575
2. QT interval = 0.44, RR interval = 0.76, QTc interval = 0.555
3. QT interval = 0.44, RR interval = 0.76, QTc interval = 0.505
4. **Given the QTC interval above 500msec, what arrhythmia is the patient at risk of developing?**
5. Torsade de Pointes
6. Pheochromocytoma
7. Type II second degree AV block
8. **Which of the following drugs would be unlikely to cause QTc interval prolongation?**
9. Quinidine
10. Sotalol
11. Verapamil
12. **Which of the following drugs can treat patients with Torsade de Pointes?**
13. Magnesium sulfate
14. Amiodarone
15. Adalimumab
16. **If a patient is taking sotalol and his renal function markedly decreases, what is likely to happen to the QTc interval?**
17. It would get longer
18. It would get shorter
19. It would stay the same