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Society of Critical Care Medicine

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Harmful Side Effects of The Popular Weight Loss Drug-Phentermine

Dear Editor,

I read the case report called "Phentermine: Dilated Cardiomyopathy and Biventricular Failure" and I appreciate all of the labs that were included to rule out that phentermine was the cause for the heart problems this patient experienced. However, I started to think more about it and I found it to be troubling because of the problems phentermine can cause to the heart. More specifically atrial fibrillation (AF). I was compelled to do further research on this topic because I experienced AF while on phentermine and was admitted to the hospital. I decided to read more case reports similar to the one published in your journal and I found that this drug can cause serious heart problems even in the healthiest adults. AF is not listed as a common side effect, but I believe this is a topic that should be looked into further and highlighted in the medical community. While Phentermine is legal in the US, it isn't legal in Europe due to the harmful side effects outweighing the good it's said to promote (Shin and Gadde, 2013). So, the question is, why is the drug still being prescribed when it can cause so many serious issues to the heart? I would like to share the information that I found on this drug so it can be further discussed and studied.

Obesity is a risk factor for cardiovascular complications. Taking phentermine (Adipex) is a popular option for treating obesity. Adipex is an appetite-suppressant and norepinephrine

stimulant prescribed for individuals with a BMI over 30 who cannot modify their lifestyle. Short-term use is recommended due to its increased sympathetic tone and potential adverse effects (Manasrah, 2022). Still, the adverse side effects are concerning and make one wonder if it's worth the risks of taking this drug. Common phentermine side effects include nausea, vomiting, diarrhea, constipation, dry mouth, restlessness, nervousness, headaches, tremors, and insomnia. It has a very small risk of addiction. The main cardiovascular adverse effects are palpitations, mild tachycardia, and elevated blood pressure (National Center for Biotechnology Information, 2023).

The first similar case to your article I am referring to is a 49-year-old obese woman with no significant medical history, except for migraines, who was experiencing acute dizziness and palpitations while teaching her class. She was prescribed to take phentermine 37.5 mg for weight loss and Excedrin for migraines. A 12-lead EKG revealed irregular tachycardia, AF diagnosis, and rapid ventricular response. The patient was started on a diltiazem drip for rate control and later titrated to oral diltiazem. She was able to achieve rhythm control. The patient's AF stroke risk was 1, so she was started on aspirin 81 mg daily and metoprolol 25 mg. The patient was advised to discontinue phentermine and follow up with her PCP within 1 week (Manasrah, 2022).

Another case that resulted in AF involves a 43-year-old man with severe obesity and obstructive sleep apnoea (OSA) who was prescribed a high-protein diet and phentermine. Three weeks later, he developed AF and required cardioversion. It was found that OSA complications and phentermine were the triggers for AF (Apovian, 2012).

The next case study I reviewed was on a 54-year-old woman who had developed atrial fibrillation during treatment with phendimetrazine and phentermine to lose weight, and she experienced problems with atrial fibrillation causing her to be hospitalized. She was treated with

diltiazem boluses and continuous diltiazem titration drip, despite which the heart rate remained high. Further treatment was needed to bring her heart rate down. Once she returned to a normal heart rhythm, she was discharged and advised to stop taking phentermine and phendimetrazine. This patient did have other heart-related issues, but it was ruled out that the phentermine started AF (Reactions Weekly, no. 1872, 2021, pp. 178–178).

The next case I would like to examine is a young, obese female who was evaluated for progressively worsening dyspnea, chest discomfort, and clear sputum for one month. The diagnosis of heart failure (HF) was less likely due to a lack of prior asthma, allergies, or family history. Echocardiographic examination revealed an ejection fraction of less than 20%, reduced left ventricular function, mild-to-moderate mitral regurgitation, and global hypokinesis, confirming HF. Other causes of subacute dyspnea, such as anemia, sarcoidosis, interstitial lung disease, pneumonia, myocarditis, and pericarditis, were less likely due to her normal hemoglobin level, lack of perihilar lymphadenopathy, negative CT scan for interstitial disease, and no history of fever, chills, or viral illness. The patient's history of phentermine uses for two years to lose weight and discontinuation about a month before the presentation could have led to cardiotoxicity, resulting in Heart failure with preserved ejection fraction (Damani, 2022). The problem here is that while she did experience heart problems due to using phentermine, she used it longer than the prescribed time. But the question to ask here is why it was continuously prescribed. Another thought to consider is studying the long-term effects of this prescription to fully weigh out if the risks are worth the usage.

The next issue I would like to highlight doesn’t directly affect the heart, but more so neurological functions. A 33-year-old woman experienced drug-induced psychosis and mood disorder during weight loss treatment with phentermine. Although she lost 20 lbs in three

months, she experienced dramatic mood swings, aggression, and obsessive fixation. She was diagnosed with substance-induced psychosis and mood disorder and started receiving risperidone and valproate-semisodium. After discontinuing phentermine, she responded well to medications and was discharged on day 8. The occurrence of psychosis and mood disorder was associated with phentermine and her postpartum period (Reactions Weekly, vol. 1863, no. 1, 2021, pp. 290–290).

To conclude, the long-term effects of this drug can be detrimental to one's heart health and even neurological. I feel that more studies should be done on this prescription to weigh out the pros and cons. Furthermore, AF should be studied extensively concerning this weight loss drug since it is a serious potential side effect. As I stated in the beginning, Europe has banned this drug due to its harmful side effects. While phentermine can be an excellent tool to lose weight, at what costs are doctors going to risk for patients to shed some pounds?

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