

In celebration of World Health Day 2017: Depression and heart disease

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Dear Editor:

World Health Day is celebrated every year on April 7th to mark the anniversary of the founding of the World Health Organization (WHO). This day provides a unique opportunity for action on specific health issues that concern people around the world. The slogan for the World Health Day this year is “Depression: Let’s talk” (1). The increasing incidence of depression around the world is one of the problems that is rapidly spreading across the globe, where estimations go that depression will be the second health threat after cardiovascular disease (CVD) by 2020 (2). This led the WHO to highlight this disease this year. Despite the increased social welfare compared to the past, the prevalence of depression among the current generations has not decreased but rather increased further along. Depression is a common mental disorder that affects people of all ages, at all standards of life, and in all countries.

The literature reports the prevalence of depression in different countries to range between 10 and 20 percent with the average being around 15 percent. Social interactions and face-to-face conversation between individuals and family members play an important role in prevention of depression. These however have reduced remarkably with the advent of the Internet, cyberspace, and the hectic lifestyle. Consequently, an influential tool to prevent depression is simply excluded whereby depression has become more prevalent. In fact, loss of social relationships and the consequently reduced dialogue with others raises the sense of loneliness, isolation and lack of support. The result is depression that is increasing day by day. Given the

importance of this issue, we discuss associations between depression and CVD in this paper.

Major depression is a debilitating disorder that involves cognitive, biological, and behavioral symptoms, with a wide range of presentations such as decline in mood, negative attitude, appetite disturbance, anergia, and suicidal inclinations and thoughts. Its general prevalence is about 17% in various communities (3). Depression has been reported to be of a higher prevalence among CVD patients. In one study, 74% of patients who had been recently diagnosed with acute myocardial infarction were also suffering from depression (3). Significance of the issue resides with the fact that 10% of patients visiting public outpatient clinics, 30% of patients referred to cardiac outpatient clinics, and 50% of patients who are undergoing cardiac surgery suffer from depression (3, 4).

Various studies have shown that depression in patients with myocardial infarction is associated with greater morbidity and mortality rates as well as with lower quality of life. History of depression during acute myocardial infarction is considered person independent risk factor for mortality, such that myocardial infarction patients who suffer from depression have five times a greater chance of 6-month mortality than others (3).

Mechanisms depicting the higher prevalence of depression in cardiac patients are displayed in Figure 1. (3)

1. Depressive patients tend to have greater behavioral disorders, including aloofness and greater alcohol consumption, physical inactivity and subsequent obesity which together increase the incidence of heart disease.

2. There is an increased activity of the sympathetic system in depressive patients resulting in left ventricular hypertrophy, cardiac arrhythmias, and cardiac infarction.

3. A disruption of the hypothalamic-pituitary path occurs in depressive patients so that these patients have higher cortisol levels that may cause dyslipidemia, obesity, abdominal obesity, diabetes, and ultimately metabolic syndrome the latter of which is a risk factor for CVD.

4. Stress and anxiety are two common symptoms in depressive patients. An increase in the activity of platelets, endothelial dysfunction, and hypercoagulable follows anxiety and stress leading to blockage of the coronary arteries.

5. Increased inflammatory factors occur in depressive patients. These patients have greater levels of CRP, TNF, and proinflammatory cytokines that are all contributory to the incidence of CVD.

As it is discussed, several behavioral, inflammatory and coagulation factors put depressive patients prone to heart disease. These factors need to be treated in depressive patients. On the other hand, cardiologists and cardiac surgeons need to attend for depression symptoms in light of the greater chance of mortality and morbidity in comorbid CVD and depression cases. Whenever depression is confirmed, psychiatric consultation is necessary. Studies

have shown that treatment of depressive heart patients can improve survival chances of these patients (5). Some studies have reported cardiac complications for antidepressant drugs such as tricyclic and selective serotonin reuptake inhibitors (6). Therefore, it is recommended to initiate these drugs along with cardiac and psychiatric consultation.

References

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Major Depressive Disorders

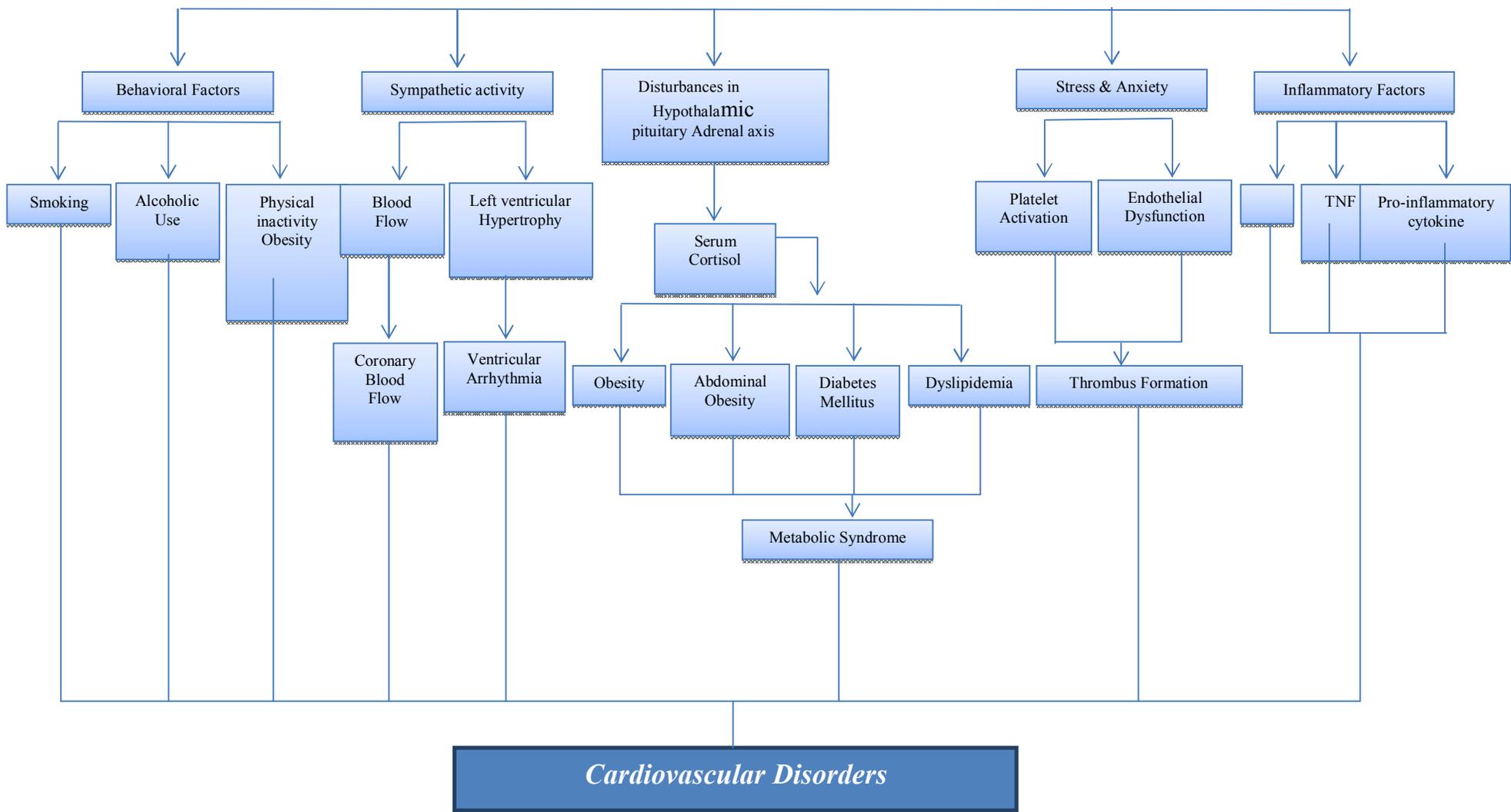


Figure 1: Possible mechanisms of major depression and increased cardiovascular risk