**Dyslipidemia**

One cardiovascular condition that a nurse must have knowledge on is dyslipidemia, otherwise known as hyperlipidemia. This condition is when there is an elevated level of lipids in the blood (Story, 2018). Dyslipidemia isn’t considered a disease, but rather a condition that could lead to potential diseases such as atherosclerosis, peripheral vascular disease, coronary artery disease, hypertension, and stroke (Story, 2018).

In order to fully understand what dyslipidemia is and how it affects oneself, the nurse must first understand what lipids are. Lipids are fats necessary for cellular membrane function and are composed of cholesterol and triglycerides introduced by diet and liver production (Story, 2018). The cholesterol that is ingested by diet come from saturated fats. For liver production, the liver simply produces the cholesterol (Story, 2018). So much so that the human body does not need to ingest any cholesterol in order to survive (Story, 2018). Triglycerides come into play when talking about the density of lipids. A triglyceride is a type of lipid that is composed of three fatty acid chains. Triglycerides weigh less than proteins which will come into play when talking about classification of good and bad lipids (Story, 2018). The less dense the lipid, the lower number of triglycerides.

As with everything in life, there is good and bad. In the context of anatomy, there are both good and bad lipids. The number of triglycerides is the determining factor between this distinction. If triglycerides outweigh proteins in the lipid structure, then this is considered a low-density lipoprotein (LDLs) or otherwise known as bad cholesterol (Story, 2018). On the contrary, if proteins outweigh the triglycerides, then this is considered a high-density lipoprotein (HDLs), otherwise known as good cholesterol (Story, 2018). One should want as little LDL and as high HDL as possible in order to live an optimal, healthy lifestyle.

As previously stated before, dyslipidemia can lead to diseases such as atherosclerosis, peripheral vascular disease, coronary artery disease, hypertension, and stroke (Story, 2018). When there are too many lipids in the blood stream, the vessels can become clogged. This in turn causes plaque on the artery walls which can lead to a stroke if the clot becomes unclogged and flows to the brain blocking blood there (Story, 2018). Coronary artery disease and peripheral vascular disease is also a direct result of atherosclerosis (Story, 2018). This also causes the heart to work harder which is seen in hypertension (Story, 2018).

Risk factors as well as etiology for dyslipidemia include eating an excessive amount of saturated fats, “excessive alcohol consumption, smoking, sedentary lifestyle, obesity, diabetes mellitus, hypothyroidism, and renal disease,” (Story, 2018, p. 95). There are typically no clinical manifestations until it develops into a disease as described in the above paragraph (Story, 2018). Testing can be done to screen cholesterol counts and lipid profiles (Story, 2018). Total cholesterol should be less than 200 with LDLs counting as less than 100 and HDLs counting as 40 to 60 (Story, 2018).

Nursing skills are hard to pinpoint for this condition; however, they remain consistent with basic nursing skills such as a head to toe assessment. Because there are typically no manifestations present until disease develops, the nurse needs to be cognitive about the patients diet and overall lifestyle. From here the nurse can educate the patient on the importance of eating healthy, exercising daily, drink alcohol moderately, and avoid using tobacco products (Story, 2018).

The American Heart Association (AHA, 2020) describes dyslipidemia as reversable. This meaning, even if one has high cholesterol now, with lifestyle changes, the cholesterol levels will balance back out (American Heart Association [AHA], 2020). If lifestyle changes such as eating a heart-healthy diet, increasing physical activity, quitting smoking, and losing weight do not balance these levels out, medication may be prescribed. Some of these medications include statins, PCSK9 inhibitors, selective cholesterol absorption inhibitors, resins, fibrates, niacin, omega-3 fatty acid ethyl esters, and marine-derived omega-3 polyunsaturated fatty acids (PUFA) (American Heart Association [AHA], 2020). Out of all of these listed, statins are determined to be the recommended medication for most patients because they are the only drug class that has be directly associated to reducing heart attack and/or stroke while lowering cholesterol (American Heart Association [AHA], 2020).

An article written by Daniel J. Rader also recognizes the use of statins as an appropriate form of treatment to lower LDL (Radar, 2016). However, in addition to statin, there is a medication described as higher-intensity statin therapy. Rader describes this as having an even greater sustainable reduction in cardiovascular events than commonly used statins (Radar, 2016). This is the type of medication that is used as tolerated. Other medications to lower LDL described by Rader include bile acid sequestrant cholestyramine and cholesterol absorption inhibitor ezetimibe (Radar, 2016). PCSK9 inhibitors were mentioned by the American Heart Association, but they are also mentioned by Rader. They are often used with individuals that are nonresponsive to statins (Radar, 2016). This typically occurs when patients have genetic disorders in relation to dyslipidemia called familial hypercholesterolemia (Radar, 2016). On the other hand, HDL can be increased by niacin which was also a medication recommended by the American Heart Association (Radar, 2016). Overall, the first line of treatment are lifestyle changes. From lifestyle changes, medical interventions may be induced.

**References**

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