



ASSESSMENT 2: CIRRHOSIS

Module: Introduction to Physiology

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Introduction

This report will be discuss about Cirrhosis as a lifestyle disease; it's causes, symptoms, risks, prevention and treatment; anatomy and physiology of the liver; health and lifestyle routine measures; health and social care practice, and recommendations given by the UK organisations.

Hepa means Liver and Titis means inflammation so, the topic report is about the inflammation on the liver which is one of the most important organ in the human body function.

The liver is a vital organ in the human body that performs a variety of functions including metabolism, immunity, digestion, detoxification, and vitamin storage, among others. Because of its dual blood supply from the portal vein and the hepatic artery, the liver is a one-of-a-kind organ.

Anatomy and Physiology

The term "hepatitis" is used to describe liver inflammation. It typically follows a viral infection or alcohol-related liver damage.

According to NHS, (2019), cirrhosis is liver scarring (fibrosis) caused by long-term liver damage. The scar tissue obstructs the liver's ability to function properly. Cirrhosis is also known as end-stage liver disease because it occurs after other stages of liver damage from conditions such as hepatitis. Many different types of liver diseases and conditions cause harm to healthy liver cells, resulting in cell death and inflammation.

The liver is involved in almost every organ system in the body. It aids digestion and metabolism by interacting with the endocrine and gastrointestinal systems. The liver is responsible for fat-soluble vitamin storage and cholesterol balance. It is used to hold iron and copper. It helps with clotting factor and protein synthesis in haematology. It is involved in the metabolism of sex hormones and creates carrier proteins that are vital in reproduction and development (Kalra et al., 2022).

Liver is a large organ located in the upper abdomen and helps the body cleanse the blood and aid in digestion by secreting bile.

- **Anatomy**

The liver weighs roughly 1.8 in men and 1.3 kg in women and is the second-largest organ in the body after the skin. It is located exactly beneath the diaphragm in the right upper quadrant of the abdominal cavity. It is made up of four lobes of different sizes.

Hepatocytes, which are the cells that make up lobules, give them their distinctive hexagonal shape. The left, right, and central hepatic veins drain blood from the liver into the inferior vena cava, which is located below the right atrium. In unique veins called sinusoids located within the lobules of the liver, oxygenated arterial blood and deoxygenated venous blood combine. In essence, sinusoids are two columns of hepatocytes that are separated by blood veins with gaps in their walls. While the deoxygenated blood includes the nutrients taken up from the small intestine, the oxygenated blood offers metabolic fuel for the hepatocytes (Sturgeon, 2018).

- **Physiology**

The functions of the liver are: Filtration, digestion, metabolism and detoxification, and protein synthesis.

The liver performs a variety of functions within the digestive system, but its primary function is to process nutrients absorbed from the small intestine. Bile from the liver is secreted into the small intestine and aids in the digestion of fat and some vitamins (Cleveland Clinic, 2021).

Apart from the production of bile and the metabolism of carbohydrate, fat and protein, the liver has many additional functions such as detoxification of drugs (the liver deals with medication, alcohol, ingested toxins and the toxins produced by the action of microbes), recycling of erythrocytes, deactivation of many hormones, including the sex hormones, thyroxine, insulin, glucagon, cortisol and aldosterone, production of clotting proteins, storage of vitamins, minerals and glycogen, synthesis of vitamin A and heat production (Peate and Nair, 2011).

Health and Lifestyle routine measures

Cirrhosis can be caused by a variety of diseases and conditions, including chronic alcoholism, chronic viral hepatitis for instance hepatitis B, C, and D, fat accumulation in the liver, iron build up in the body, cystic fibrosis, Wilson's disease, poorly formed bile ducts, inherited disorders of sugar metabolism, genetic digestive disorder, autoimmune hepatitis, bile duct destruction, infection, and medications (Mayo Clinic, 2021).

A person diagnosed with cirrhosis has loss of appetite, fatigue, nausea, weight loss, itchy skin, yellow discoloration in the skin and eyes, swelling legs, feet and ankles, redness in the palms of the hands and bleeding and bruising easily. Sensitivity to medications, insulin resistance, type 2 diabetes, gallstones, problems with the bile ducts, the tubes that carry bile out of the liver and bone diseases like osteoporosis are all potential side effects of cirrhosis.

There are 3 risks factors that can lead to cirrhosis: excessive alcohol consumption. Cirrhosis is a risk factor for excessive alcohol consumption. Being overweight, obesity increases the risk of cirrhosis-causing conditions such as non-alcoholic fatty liver disease and non-alcoholic steatohepatitis, and having a viral hepatitis. Cirrhosis does not develop in every case of chronic hepatitis, but it is one of the leading causes of liver disease worldwide.

The measures routine to prevent or treat cirrhosis are: If a person has cirrhosis, avoid alcohol. Alcohol consumption is not advised if a person has liver disease. Men and women should not consume more than 14 units of alcohol per week.

Adopting a balanced diet. A person with cirrhosis must take the decision to eat a plant-based, fruit and vegetable-rich diet. Choose lean protein sources and whole grains. Limit the intake of fried and fatty foods. keep a healthy weight. Having too much body fat can harm the liver. If a person is obese or overweight, they should discuss a weight-loss plan with the doctor or healthcare professional. Reduce hepatitis risk. The risk of contracting hepatitis B and C can increase if the person share needles and engage in unprotected sex. They should take vaccinations against Hepatitis (Cleveland Clinic, 2020). Quit smoking if the person smokes and do exercise regularly.

Having routine medical exams, which include tests to look for liver cancer. Having routine endoscopic procedures to check for varicose veins in the oesophagus or stomach having a liver transplant, which may be an option in extreme cases, to treat varicose veins in the liver .

Cirrhosis has no cure at the moment. By follow these measures, the person with cirrhosis can prevent having liver cancer, portal hypertension and varices, ascites, hepatic encephalopathy, and infection. If the liver has been severely damaged, a liver transplant may be the only option for treatment.

Health and Social Care Practice

To improve health and social care, NICE offers national guidance and recommendations. The Department of Health and Social Care sponsors NICE, an executive non-departmental public body (GOV.UK, 2021).

NICE offers a comprehensive support and resource programme to increase the uptake and use of evidence and guidance such as raise awareness through regular meetings, internal staff briefings, emails, newsletters, and other communications with all pertinent partner organisations (www.nice.org.uk, n.d.).

The Liver 4 Life is committed to helping anyone in the UK who is affected by a liver condition. It works to improve the care, treatment, and support services available to people with liver conditions by providing support, educating the public, and launching campaigns on their behalf. In the UK, Liver 4 Life acknowledges the significance of preventing liver disease and promoting early detection of liver conditions such as liver cancer (liver4life, n.d.). It has many different campaigns and projects such as Time To DeLiver: Getting A Grip On He, I'm Not Too Sexy To Get Tested, Fibroscan Training and Pharmacy Look Back Project.

Alcohol Change UK policy is focused on delivering good, evidence-based change to reduce the serious harm caused by alcohol and make a positive difference to the millions of people who are affected. One of the World Health Organization's three "best buy" policies—the most economical, scientifically supported ways to reduce alcohol harm—recommends raising the price of alcohol. Raising the cost of alcohol for consumers will, generally speaking, result in lower consumption and, consequently, less harm (Alcohol Change UK, 2017). In order to create a vibrant, diverse, well-funded, well-commissioned, and well-coordinated treatment sector that is simple for people with drinking issues and their families to navigate, they collaborate with organisations and practitioners on the treatment front line.

Dry January in the workplace, Dry January in the community, Alcohol Awareness Week and #StopSboerShaming are the four campaigns that support people across the country to change their relationship with alcohol. Using resources provided by Alcohol Change UK, more than 5,000 public health teams, workplaces, GP offices, pharmacies, hospitals, charities, and other community groups across the country sign up to participate each year.

Not only adults can be affected by liver disease, but children too.

Children Liver Disease Foundation's mission is to combat the effects of childhood liver disease by investing in critical research, providing information and education to healthcare professionals, parents, and the general public about the signs and symptoms, campaigning

for a unified voice for young people and their families and providing tailored support services to young adults, children, and their families (Childrens Liver Disease Foundation, n.d.). It has a Liver Life magazine which contains the latest news, campaigns, research projects and features.

Recommendations

Reduce or stop drinking alcohol, cut back on salt to help with fluid retention and bloating, and consume foods high in starchy carbohydrates like potatoes, bread, pasta, and rice, according to organisations like the British Liver Trust (British Liver Trust, n.d.).

The healthiest options are those made of whole grains. Low in red meat, including lamb, pork, and beef. Select items made from animals such as chicken, turkey, fish, dairy products, or tofu that are plant-based. Monounsaturated fats are more abundant than saturated fats. Less than 10% of the daily calories should come from saturated fats. Instead of butter, lard, or solid oils like coconut and palm, using vegetable, olive, or sunflower oil and spreads made from them. Consume more calories and protein-rich foods like nuts, beans, and pulses like lentils, kidney beans, or baked beans.

Muscle wasting and frailty can develop earlier in life in people with advanced liver disease (cirrhosis). Exercise is a crucial part of maintaining strong muscles and a healthy body. The NHS UK advises engaging in two days per week of strength training as well as at least 2 hours of moderate aerobic activity (NHS, 2021).

Being physically and mentally active is beneficial. Every action counts, and the more a patient takes, the more they will gain. Exercise can help with back or joint pain, clear the mind, increase energy, and improve sleep.

Conclusion

This report covered the definition of cirrhosis, its causes, symptoms, and methods of treatment and prevention. The affected organ (liver), as well as its anatomy and physiology, are also covered. The liver performs a variety of tasks that help the human body work properly and is just as vital as the heart.

Daily physical activity, giving up or reducing alcohol consumption, and quitting smoking are all essential components of a healthy lifestyle.

A few of the many organisations in the UK that assist by promoting awareness, prevention, and treatment of any type of liver inflammation, such as cirrhosis, include Liver 4 Life, Alcohol Change UK, Children Liver Disease Foundation and NICE.

People with cirrhosis are advised to exercise frequently by both the British Liver Trust and the NHS. Cirrhotic patients should exercise regularly, eat a diet high in protein and fibre, avoid alcohol, and quit smoking, according to the British Liver Trust and the NHS.

References

- Alcohol Change UK. (2017). *Electric Putty*. [online] Available at: <https://alcoholchange.org.uk/policy/policy-insights/alcohol-price-and-duty>. Accessed: 25 Aug 2022
- British Liver Trust. (n.d.). *Diet and cirrhosis*. [online] Available at: <https://britishlivertrust.org.uk/information-and-support/living-with-a-liver-condition/diet-and-liver-disease/cirrhosis-and-diet/>. Accessed: 24 Aug 2022
- Childrens Liver Disease Foundation. (n.d.). *About Childrens Liver Disease*. [online] Available at: <https://childliverdisease.org/about-us/>. Accessed: 25 Aug 2022
- Cleveland Clinic (2020). *Cirrhosis of the Liver | Cleveland Clinic*. [online] Cleveland Clinic. Available at: <https://my.clevelandclinic.org/health/diseases/15572-cirrhosis-of-the-liver>. Accessed: 23 Aug 2022
- Cleveland Clinic (2021). *Digestive System: Function, Organs & Anatomy*. [online] Cleveland Clinic. Available at: <https://my.clevelandclinic.org/health/body/7041-digestive-system>. Accessed: 23 Aug 2022
- GOV.UK. (2021). *National Institute for Health and Care Excellence*. [online] Available at: <https://www.gov.uk/government/organisations/national-institute-for-clinical-excellence#:~:text=The%20National%20Institute%20for%20Health>. Accessed: 24 Aug 2022
- Kalra, A., Yetiskul, E., Wehrle, C.J. and Tuma, F. (2022). *Physiology, Liver*. (online) www.ncbi.nlm.nih.gov. StatPearls Publishing. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK535438/?report=printable> Accessed: 22 Aug 2022.
- Liver4life. (n.d.). *About us*. [online] Available at: https://www.liver4life.org.uk/about_us. Accessed: 25 Aug 2022

- Mayo Clinic (2021). *Cirrhosis - Symptoms and Causes*. [online] Mayo Clinic. Available at: <https://www.mayoclinic.org/diseases-conditions/cirrhosis/symptoms-causes/syc-20351487>. Accessed: 22 Aug 2022
- NHS (2019). *Overview - Cirrhosis*. [online] NHS. Available at: <https://www.nhs.uk/conditions/Cirrhosis/>. Accessed: 22 Aug 2022
- NHS (2021). *Exercise*. [online] NHS. Available at: <https://www.nhs.uk/live-well/exercise/>. Accessed: 24 Aug 2022
- Peate, I. and Nair, M. (2011). *Fundamentals of anatomy and physiology for student nurses*. Chichester, West Sussex, U.K.: Wiley-Blackwell.
- Sturgeon, D. (2018). *Introduction to anatomy and physiology for healthcare students*. Abingdon, Oxon ; New York, Ny: Routledge.
- www.nice.org.uk. (n.d.). *Putting this guideline into practice | Cirrhosis in over 16s: assessment and management | Guidance | NICE*. [online] Available at: <https://www.nice.org.uk/guidance/ng50/chapter/Putting-this-guideline-into-practice> Accessed: 25 Aug. 2022.