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Introduction

An overview of Chronic Liver Disease will be provided in the case study, followed by releasing the health record (GDPR). General Data Protection Act (2018) consent research form, a medical investigation, a diagnostic test, and an assessment report carried out by Medical Diagnostic Clinic. Based on the data of a 42-year-old male non-smoker who does not use alcohol, engages in moderate physical activity, and does not consume nutritious meals. However, suffering from hepatitis, an inflammatory condition characterised by an infection that attacks healthy tissue and results in chronic liver damage. Damage to the liver can accumulate in the body over a while. When scar tissue replaces the healthy liver tissue, it cannot fulfil its regular activities; the liver is the largest internal organ. When the liver functions, it is one of the most critical organs in the human body; it eliminates waste, such as poisons and medications. It stores sugar that the body requires for energy when synthesising new proteins. Stanley has Cirrhosis, which is scar tissue that causes blood flow through the liver to be slowed. Over time, the liver's ability to function appropriately diminishes. In difficult situations, the liver is damaged to the point that it ceases to function, a condition known as liver failure.

Case Study- Chronic Liver Disease

Patient: Inpatient at Queen Elizabeth Hospital

Stanley Westwood travels with liver disease and Cirrhosis that cause Oedema and constipation are evident in a 42-year-old male with hepatitis B, cirrhosis family history disease. During Mr Westwood's health questionnaire, he stated he did not smoke and stopped smoking for more than one year. Travelled with high cholesterol, high blood pressure with KG weight 113.39, Pulse rate 60 to 100 beats per min his rate fluctuate and increase with average, respiration 10 to 30 breaths per min considered abnormal, BMI 31.2 category moderately obese at medium health risk. Blood pressure 140/90 as Mr Westwood environment and poor health and diet are causing his stress, moderate exercise once weekly, diet poor nutrition valuation with dietician intervention needed as a request by the consultant. The General Practice performs the following tests on Mr Westwood, and the results are as follows.

- 30 g/L albumin
- 1×10^{11} platelets per litre platelet count, considered high (Hypertension of the portals
- alpha-fetoprotein concentration of 450 ng/mL

As a result of Mr Westwood's test investigation. UKEssays (2018).

Abnormal results: The liver enzymes increase levels of alanine transaminase, aspartate transaminase, and alkaline phosphatase, which increase the levels of bilirubin and decrease the level of blood protein level.

Normal Results: Liver function test shows blood test of alanine transaminase (ATL) 7 to 55 units per litre and alkaline phosphatase (AST) 8.48 U/L; this shows and detects if the liver is damaged. UKEssays (2018).

Condition:

Mr Westwood's severe Cirrhosis and Chronic liver damage can lead to scarring fibrosis, which impedes liver function by causing scar tissue to build up in the organ. After various phases of liver damage caused by Hepatitis, Cirrhosis is usually considered an end-stage condition. Nhs.uk (2021)

According to the data protection (2018), Medical Diagnostic Clinic researched Stanley Westwood's medical condition using the General Data Protection Act, 2018. Personnel in charge of patient data must follow strict "data protection principles." They must ensure that data is used fairly, legally, and transparently. It must be stored securely for no longer than is necessary and must be protected from unauthorised access and unlawful processing, loss, destruction, or damage. GOV.UK (2021)

Care Plan and Assessment Report- Test Results

According to Aspinall et al. (2011), the 42-year-old man's symptoms are linked to the tests used to diagnose his condition. The liver is damaged by hepatitis B, leading to chronic hepatitis if it is not treated. Hepatitis B-induced cirrhosis is a type of liver scarring. However, because of the severity of hepatitis in this 42-year-old man, scarring of the liver tissue will occur, leading it to stop functioning. A tissue sample taken from the liver to do a biopsy can be acquired to determine the severity of hepatitis. The liver produces a protein called albumin, and cirrhosis damages the liver, making it necessary for the liver to create albumin.

When it comes to monitoring the amount of protein in the blood, Gupta, and Lis (2010) say albumin is a liver it produces protein. The test was employed to determine if a person is suffering from liver or kidney disease. The normal range for people is 3.4–5.4g/dL. Oedema can be caused by low albumin levels, which are less common in men than the average. For Mr Westwood, cirrhosis increases fluid retention in the body's signs and feelings. Cirrhosis exacerbates Oedema, resulting in reduced albumin and other blood proteins.

As a result, the number of platelets in the blood is determined by the platelet count, which is 1×10^{11} platelet each day for the average human, according to Kotoh et al. (2012). Hypertension in the portal vein, which travels through the liver, causes an increase in blood pressure. In liver diseases, such as cirrhosis or Hepatitis B, portal hypertension is a common symptom. There was an elevated risk of portal hypertension in patients with cirrhosis. The platelet count of this 42-year-old male, which is below average for someone with portal hypertension, is typical of these patients. A low platelet count characterises thrombocytopenia in the blood. Thrombocytopenia can be caused by cancer, medication, disease, and infections. Thrombocytopenia is a common cancer symptom because cancer and its therapy can compromise the bone marrow's ability to produce platelets.

Alejandro et al. (2012) found that proteins in the liver are recognised as a tumour marker for liver cancer; the test can detect possible liver disorders. It is less than 40 micrograms/litre on average in guys. High alpha-fetoprotein levels are a vital sign of liver disease, the most common cause of liver failure. On the other hand, (AFP) alpha-fetoprotein levels are very high since the study used male subjects, and since guys are unable to become pregnant, this result is meaningless. It could be a sign of cancer or liver disease in those situations. As a result, a liver transplant may be beneficial for the woman. Adults with elevated amounts of these substances in their blood may risk developing various cancers, including liver cancer.

Symptoms and Diagnosis

According to Gaw et al. (2013), constipation is a liver-related condition, which indicates that the tumour progression is most likely caused. Constipation could be caused by Mr Westwood's digestive system being pressed or by his cirrhosis preventing him from digesting fatty fats properly, causing his bile to get blocked. However, a blood test for hypothyroidism demonstrates constipation caused by hypothyroidism and thyroid hormone. Swelling and oedema are signs of malnourishment and low albumin levels in the blood. Males with liver failure and cirrhosis have a lower albumin level caused by a lack of protein in the diet. In his case, cirrhosis of the liver is the primary culprit.

A study by Huang and Liaw (2008) found that cancer is more prevalent in the elderly. Damage to the liver and cancer of the liver is caused by alcohol, which is produced by the liver. People with chronic liver illness are more susceptible to developing autoimmunity. The main risk factors include cirrhosis, hepatitis B, and C. Hepatocellular Carcinoma is more likely to occur in patients with persistent liver disease. Hepatocellular Carcinoma is common in people over the age of 50. Two of the most common liver diseases are cirrhosis and hepatitis, according to Marshall and Bangert (2008). Elevated alpha-fetoprotein levels are a hallmark of Hepatocellular Carcinoma, which occurs when the liver is severely injured. Hepatocellular Carcinoma is diagnosed when alpha-fetoprotein levels exceed 400 ng/mL, which falls within the normal range of 10 to 20 ng/ml.

Further tests

A liver ultrasound, which uses sound waves to take photographs and study organs inside the body, was one of the diagnostic possibilities available to Mr Westwood. Testing for cancer in liver tumours is possible. Liver malignancies can benefit from magnetic resonance imaging (MRI) scans, which can assist detect if a tumour is cancerous or not. Another alternative is for doctors to extract a portion of the tumour and study it under a microscope to determine its viability. However, a blood test was performed to detect the presence of the enzyme alanine aminotransferase in the blood. Alanine aminotransferase levels are on Mr Westwood's mind since he is concerned about his liver's health. The alanine aminotransferase level in the blood usually is low. Blood tests can reveal elevated alanine aminotransferase levels in liver illness or injury patients. An increase in alanine aminotransferase levels is strongly linked to liver injury. UKEssays (2018)

Treatment and Prognosis

Mr Westwood's treatment options for Hepatocellular carcinoma (HCC) include a liver transplant or surgery to remove small or slow-growing tumours. Sorafenib tosylate (Nexavar) is an oral medication that inhibits and stops tumour growth. Because about 10 - 20% of hepatocellular carcinomas can be surgically removed, the prognosis is generally poor. Cancerous cells can be killed by radiofrequency ablation. If cancer is not effectively removed or eliminated, it is usually fatal within three to six months. Furthermore, this has not been the case; however, each person is unique, and in rare circumstances, people will live considerably longer than six months. UKEssays (2018)

Medication

If cirrhosis is caused by hepatitis, antiviral medication should be taken.

Antibiotics such as Adefovir, Entecavir, Lamivudine, and Tenofovir are used to treat infection. Erythromycin, Azithromycin, Rifampin, Isoniazid is one of the antibiotics available.

Intervention

Nursing care planning for patients with liver disease and cirrhosis, according to Plauth (2019), comprises promoting relaxation, giving enough nutrition, skincare, and avoiding the risk of injury. A complete positive assessment of nutritional status is required for monitoring and controlling issues and using a validated technique. The primary goal of dietary intervention is to give a sufficient amount of protein $1.2\text{--}1.5\text{ g kg}^{-1}\text{ day}^{-1}$ and enough calorie intake $30\text{ kcal kg}^{-1}\text{ day}^{-1}$: 1.3 resting energy expenditure. Avoid fasting for extended periods ($>12\text{ h}$) to avoid further breakdown of muscle protein for gluconeogenesis. As a result, late-night snacks or even nocturnal oral nutritional supplements boost total body protein status and are thus advised. Appropriate nutrition intervention, such as nutrition counselling, oral nutritional supplements, enteral tube feeding, or parenteral nutrition, should be implemented.

Rational

It is not possible to reverse cirrhosis or chronic liver disease. It is most commonly caused by hepatitis and other viruses, but it can also be caused by alcohol addiction or other medical conditions. Preventing and treating liver damage and slowing the formation of scar tissue can all be accomplished through medical intervention.

Recommendation

Avoiding drinking, exercising, and eating a balanced diet while taking all of the approved medicines recommended by a doctor are lifestyle adjustments for treating liver disease and cirrhosis. Lifestyle changes cannot cure cirrhosis or liver disease, but they can help prevent worsening and make it easier to manage. Raw seafood, fish, and shellfish, on the other hand, should be avoided because they can be contaminated with hepatitis A and other viruses, bacteria, and parasites. Mr Westwood will need to reduce his risk of infection by balancing his meals and taking vitamins or mineral supplements advised by the specialist exclusively to regulate and help stop the liver damage. A low salt diet can also help minimise and alleviate fluid retention; obtaining flu, pneumonia, and hepatitis immunisations can also help lower infection risk. A well-balanced diet can aid in the rebuilding of the liver and the alleviation of Mr Westwood's severe condition. Lifestyle Changes to Manage Cirrhosis | Winchester Hospital, (2021)

Conclusion

Finally, a case study covers a 42-year-old male with liver disease and cirrhosis. A care plan, a research consent form signed with the general data protection act (2018) within an assessment report displays the test results and conclusions to clarify the ailment having hepatitis B, which kills the liver. Mr Westwood's symptoms and diagnosis indicate constipation and inadequate digestion of fatty fats, which may cause bile to clog. Mr Westwood will be subjected to additional testing such as ultrasound, MRI, imaging, and function tests to determine the extent of his liver disease. Mr Westwood's treatment prognosis and early intervention with the nursing care plan and rationale have taken effect, allowing him to maintain a healthy lifestyle to manage his liver condition.

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Appendix

LIFESTYLE QUESTIONNAIRE

Our Health Promotion efforts would benefit considerably if you could take a few minutes to fill out this brief survey. This questionnaire could be returned to the reception area if you completed one on a previous visit.

Name: Stanley Westwood

Date of Birth: 20 March 1979

Are you a smoke?

Yes [☐]

No [X ☐]

If you answered Yes, do you –

- smoke fewer than 1 cigarette/day [☐]
- 1-9 cigarettes/day [☐]
- 10-19 cigarettes/day [☐]
- 20-39 cigarettes/day [☐]
- more than 40 cigarettes/day [☐]
- smoke a pipe [☐]
- smoke cigars [☐]
- [☐]

If No, have you –

- never ever smoked [☐]
- quick smoking in the last year [☐]
- not smoked for more than 1 year [X ☐]

Do you suffer from hypertension ? Yes [X ☐]

No [☐]

Have you suffered from a heart attack Yes [☐]

No [X ☐]

or suffered from angina?

Have you ever experienced a stroke, “shock” Yes [☐]

No [X ☐]

or other sign of weakness on one side?

Have any of the following – mother, father,

brothers or sisters had –

experience a heart attack before the age of 60 Yes [☐]

No [X ☐]

a heart attack above the age of 60 Yes [☐]

No [X ☐]

a stroke	Yes [☐]	No [☐]
difficulty with highly high cholesterol (hyperlipidaemia)	Yes [X]	No [☐]

.....

Consultant Use Only

- Health Education Smoking Mental health and stress
- BP 140 / 90
- Height 6'3
- Weight 113.39 KG

EXERCISE

Healthy exercise is defined as any activity that lasts at least 20 minutes, boosts your heart rate, and causes you to breathe deeply. Running, cycling, or sports may be appropriate for younger individuals, whereas brisk walking may be appropriate for elderly persons. Do you take this type of exercise –

daily	[☐]
3 times weekly	[☐]
once weekly	[X]
once monthly	[☐]
seldom	[☐]

I cannot take exercise because of disability [☐]

DIET

Please select the one that most closely resembles your regular eating habits.

I eat no meat, fish, or dairy produce	[☐]
I eat no meat	[☐]
I eat a mixture including daily fruit and vegetables	[☐]
I eat a mixture including regular chips and fries	[X]
I eat frozen meals (e.g., TV dinners) 3 or 4 times/week	[X]
I eat mainly snacks	[X]
I eat a special medical diet	[☐]

Please specify Dietitian intervention is necessary due to nutrient deficiencies.

ALCOHOL

Please check the box next to the statement that most accurately describes your typical daily alcohol intake.

(1 unit is 1 glass wine, ½ pint beer or a single measure of spirit.)

I never drink alcohol []

I drink less than 1 unit per day []

I drink between 1 and 2 units a day []

I drink between 3 and 6 units a day []

I drink between 7 and 9 units a day []

I drink more than 9 units a day on average []

.....

Consultation Use Only

Health Education Alcohol []

Alcohol Brief Intervention []

MEDICAL DIGNOSTIC CLINIC

NHS Number: 717 896 639

Study Number: 1912354

Participant Identification Number for this trial:236590

Consent form: Releasing health records under the General Data Protection Regulation and the Data Protection Act 2018)

Title of Project: Chronic Liver Disease

Name of Researcher: Shana Rankin

Please X box

1 I certify that I have read the information sheet dated December 17, 2021. Concerning the initial investigation. I have had time to think about the facts, ask questions, and get satisfactory answers. **Yes** [☒] **No** [☐]

2 I acknowledge that my participation is entirely voluntary and that I am free to withdraw at any moment, for any reason, without affecting my medical care or legal rights..

Yes [☒] **No** [☐]

3 I understand that relevant sections of my medical notes and data obtained during the study may be reviewed by persons from the Medical Diagnostic Clinic, regulatory agencies, or the NHS Trust if relevant to my participation in this research. I authorise these individuals to have access to my records. **Yes** [☒] **No** [☐]

4 I accept that the information I provide may help future studies and may be shared anonymously with other researchers. **Yes** [☒] **No** [☐]

5 I consent to my General Practitioner being informed of my participation in the study. I consent to my General Practitioner being involved in the study, including any necessary information exchange between my GP and the research team.

You must only utilise health records for your client's purposes expressly consented to in advance. **Yes** [☒] **No** [☐]

6 I am aware that the data held and managed by Medical Diagnostic Clinic will be subject to notification under the General Data Protection Regulation and the Data Protection Act 2018. I understand that the responsibilities for sensitive information under the General Data Protection Regulation and the Data Protection Act 2018 have been notified. The entire health record should not be disclosed without the client's consent. Health records will only be kept for six years or longer as it is necessary to achieve the objectives agreed upon for the purposes that have been agreed. If the client specifically wants it, you should supply them with

copies of their medical records after the claim. Alternatively, if they do not want them, you will be in charge of securely deleting them. Medical Diagnostic Clinic uses a health record for particular purposes that have been agreed upon in advance with the customer. **Privacy Legislation and personal data law in Mauritius, 2021)**

Professionals in the field of medicine

We discussed the ramifications of his giving me access to his medical records, and I advised him of those consequences. In this situation, I affirm that I require all relevant records to be provided.

7. I accept to participate in the above-mentioned study.

Name of Participant: Stanley Westwood

Date: 17/12/21 **Signature:** SWestwood

Medical Diagnostic Clinic

Name of consultant: Dr. OKora Sharwood

Date: 17/12/21 **Signature:** OSharwood

Optibreech, (2021)

Liver Function Tests (LFTs)

AST (aspartate aminotransferase) (11 – 47 IU/L)

- AST is an enzyme found throughout the body, but predominantly in heart and liver cells.
- Most useful in detecting liver damage due to hepatitis, drugs toxic to the liver, cirrhosis, and alcoholism.
- Often ordered in conjunction with ALT.

ALT (alanine aminotransferase) (7 – 56 IU/L)

- An enzyme found mostly in the cells of the liver and kidney. When the liver is damaged, ALT is released into the blood stream. ALT is a useful test for detecting liver damage.
- Most useful in detecting damage due to hepatitis and drugs or other substances toxic to the liver.
- Often ordered in conjunction with AST.

AST/ALT Ratio

- The AST/ALT ratio is usually increased in alcoholic hepatitis, cirrhosis, and in the first day or two of acute hepatitis or injury from bile duct obstruction.

ALP (alkaline phosphatase) (30 – 120 IU/L)

- Found in bone and in the cells of bile ducts. ALP can indicate blockage of one or more bile ducts, liver cancer, hepatitis, cirrhosis, or when hepatotoxic drugs are taken.

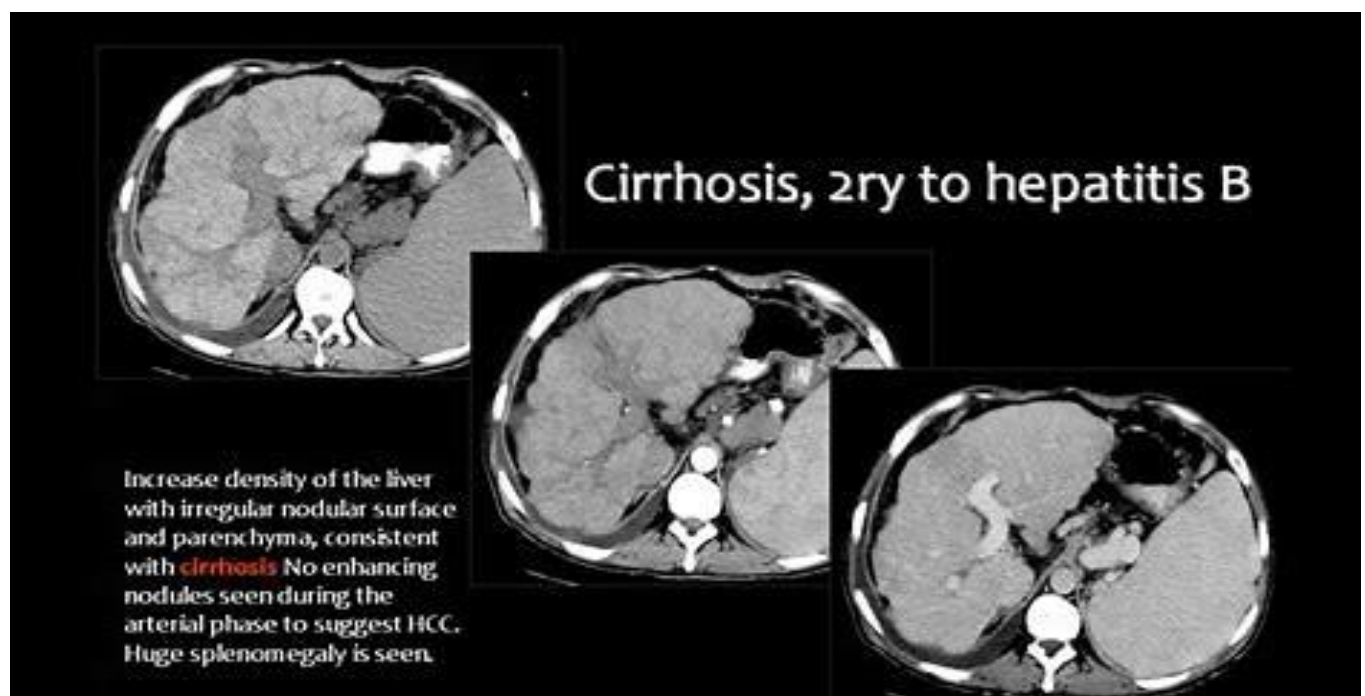


Medicenterprises.com (2021).

Laboratory test	Maximum	Minimum	Mean $\pm$ SD
Total protein	10.1	3.4	7 $\pm$ 1.1
Albumin	5.8	1.7	3.5 $\pm$ 0.8
Globulin	7	1	3.4 $\pm$ 1
AST	848	12	166.2 $\pm$ 131.3
ALT	545	16	122.7 $\pm$ 101
Alkaline phosphatase	4201	54	939.7 $\pm$ 729.7
Total bilirubin	60	0.2	8.6 $\pm$ 11.7
Direct bilirubin	28.2	0.1	3.4 $\pm$ 4.9
INR	5	1	1.8 $\pm$ 0.9

ALT: Alanine aminotransferase; AST: Aspartate aminotransferase; INR: International normalized ratio

Medicenterprises.com (2021).



Agnello (2021).

Agnello (2021).

