

Findings that Red Meat Consumers are at Rise to Liver Cirrhosis

ATIF SHAHZAD¹, MUHAMMAD MUZZAMAL IRSHAD², AREEBA RASHAD³

¹Medical Officer, THQ Hospital Kamalia, Mohi ud din Islamic medical college Mirpir Azad jamu Kashmir,

²Medical Officer, Rural health centre jalalpur sharif pind Dadan Khan dist. Jhelum, Poonch medical college Rawalakot, AJK

³Woman Medical Officer, RHC Jalalpurhattayan, MBBS, Fatima Jinnah medical university Lahore

Corresponding author: Atif shahzad, Email: Atoato9596@gmail.com, Cell: 03444725326

ABSTRACT

Objective: To study the link between cirrhosis and red meat intake and death in patients.

Study Design: Prospective Study

Place and Duration: THQ Hospital Kamalia. March 2019- Feb 2020

Methodology: This research involved a total of 200 individuals of both sexes with chronic liver disease. Two groups of patients were established. One group had a daily red meat intake more than 60 grammes, whereas the other consumes less than that limit. Both groups were compared in terms of mortality rates. SPSS 24.0 was used to examine the whole set of information.

Results: Among 200 cases, frequency of males was significantly higher than that of females. Group I had mean age 50.2±6.45 years and in group II mean age was 52.13±17.97 years. We found that cirrhotic patients who consumed more than 60 grammes of red meat per day had a higher death rate (13 % vs. 5%) than those who consumed less than 60 grammes of red meat per day, with a p-value of 0.0004.

Conclusion: Results from this study show that people with cirrhosis are more likely to suffer from unfavourable outcomes if they consume a diet high in red meat.

Keywords: Mortality, Red Meat Consumption, Chronic Liver Disease,

INTRODUCTION

Nonalcoholic fatty liver disease (NAFLD) is a rising health and economic problem in both developed and developing nations [1]. Obesity and the metabolic syndrome are linked to NAFLD, which may develop to cirrhosis, hepatocellular cancer, and liver failure [2,3]. In addition to cardiovascular disease and type 2 diabetes mellitus, NAFLD has been linked to a number of other chronic conditions, including renal disease and some types of cancer [4–7].

Aflatoxin exposure, increased alcohol use, and chronic inflammation from hepatitis B virus (HBV) (HCV) have been identified as strong risk factors for CLD. Exposure to hepatitis C may cause long-term liver damage (CLD). People with CLD are very likely to die as a result of their condition, and they are also extremely susceptible to the development of HCC. [3] Risk factors other than aflatoxin and alcohol exposure have a significant role in a significant number of cases of hepatocellular carcinoma (HCC). [4,5]

Comparatively few studies have examined the link between nutrition and HCC risk [6-7], as contrast to various other cancers. If you've just been diagnosed with HCC, you're likely to be put on a strict diet, which might have an impact on your recollection of what you ate in the past and your overall health. According to our findings, there was little or no evidence that white meat intake was associated with an increased risk of developing HCC or CLD

Researchers recently found that a diet rich in red meat was linked to lower rates of liver cancer in a study that looked at all types of cancer, including breast, prostate, and colon. [8] As part of our investigation, we'll look at many processes and the possible role of white meat in this connection. Saturated and monounsaturated fatty acids are found in large quantities in red meat. Non-alcoholic liver fatty disorders may increase the risk of CLD and HCC by accumulating fatty acids in the liver. [10] Red meat, on the other hand, has a high concentration of heme iron. [11] Chronic HCV patients who undergo phlebotomy and low-iron diets may reduce their risk of liver cancer, as can patients with iron overload hemochromatosis, excess iron eating in Africa, and phlebotomy [12]. It's still unclear whether or not consuming modest amounts of dietary iron contributes to the onset of CLD and HCC. We conducted this research to see whether there is a connection between a diet high in red meat and a higher risk of chronic liver disease.

MATERIALS AND METHODS

This cross-sectional study was conducted at THQ Hospital Kamalia and comprised of 200 patients. After obtaining informed

written permission, the demographics of each patient were recorded. This research did not include any participants who had heart disease or any other serious medical condition..

Patients with chronic liver disease and ages ranging from 20 to 65 years old were included in this research. The patients were separated into two distinct groups. Group I had a diet of red meat that was more than or equal to 60 grammes per day, while Group II had a consumption of red meat that was less than or equal to 60 grammes per day. Unless otherwise specified, anthropometric measurements were carried out when the subjects were fasting. An ultrasound of the liver was performed on each subject. In addition, each participant had a magnetic resonance imaging (MRI) procedure, which was carried out in accordance with established protocols, in order to determine the hepatic volume, as well as the fat and iron content of the liver. The outcomes, in terms of mortality, of both groups were compared and analysed. The whole of the data was analysed using SPSS 24.0. We evaluated the categorical variables based on their frequencies and percentages.

RESULTS

Among 200 cases, frequency of males was significantly higher than that of females. Group I had mean age 50.2±6.45 years and in group II mean age was 52.13±17.97 years. (Table 1)

Table 1: Included patients with characteristics

Variables	Group I	Group II
Gender		
Male	64 (64%)	61 (61%)
Female	36 (36%)	39(39%)
Mean Age (yrs)	50.2±6.45	52.13±17.97
Diseases		
HCV	52 (52%)	55 (55%)
HBV	27 (27%)	30 (30%)
NAFLD	16(16%)	10 (10%)
HCC	5 (5%)	5 (5%)

The number of days spent in the hospital by patients who consumed more than 60 grammes of red meat per day (group A) was 15.03±6.45 longer than the number of days spent in the hospital by patients whose meat intake was less than 60 grammes per day (group B) 5.12±4.45 days.(table 2)

Table 2: Hospital stay among patients

Variables	Group I	Group II
Hospital stay (days)	15.03±6.45	5.12±4.45

We found that cirrhotic patients who consumed more than 60 grammes of red meat per day had a higher death rate (13 % vs. 5%) than those who consumed less than 60 grammes of red meat per day, with a p-value of 0.0004. (Fig 1)

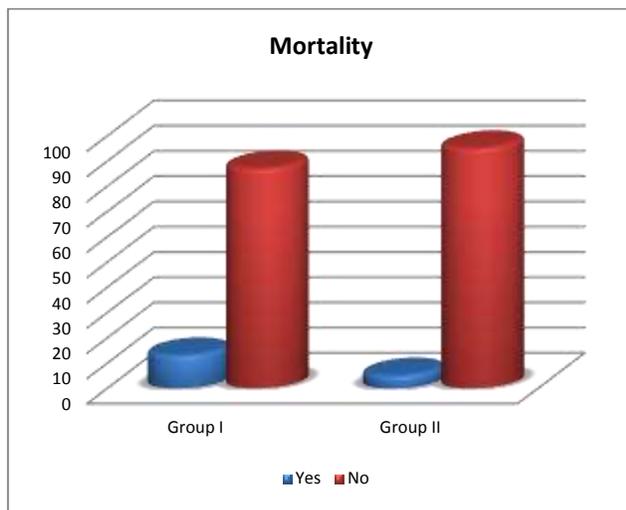


Figure-1: Comparison of adverse events among both groups

DISCUSSION

A greater risk of CLD mortality and HCC incidence was shown to be linked with red meat consumption in this large prospective cohort analysis, while white meat consumption was found to be oppositely related to both outcomes. For all endpoints, we found a statistically significant positive correlation with fat intake, with the greatest risk associated with saturated fat consumption. Saturated fat and red meat consumption were both adjusted for together, although the risk estimates remained statistically significant, indicating overlapping but separate effects..

There are little historical records of white meat consumption. According to a case-control research conducted in Italy recently, eating white meat reduces your risk of developing liver cancer. [13] There was also an unfavourable relationship identified in a Japanese cohort research; however, no adjustment was made for age or any other relevant confounders. [14] A negative correlation was found between the consumption of chicken, turkey, and fish in the present research. According to our findings, the correlation between red and white meats was low (0.05) after adjusting for calorie consumption, all risk estimations were accounted for by red meat intake, and all associations looked independent in our study. White meat consumption may minimise risk, however the exact mechanism is unknown.

Patients with cirrhosis were asked to take part in this research to see whether there was a link between poor mortality outcomes and their diet of red meat. More than half of the patients in our research were male, with a total of 200 participants. Patients were between the ages of 30 and 75. We divided the patients equally into two groups I and II: group A included those with cirrhosis, whereas group B included those without. (50 vs 52 years) was the average age of the patients in groups I and II. It was found that these results were similar to those of prior investigations. [15,16]

Among 200 cases, frequency of males was significantly higher than that of females.[13] More than half of the patients had hepatitis C, followed by HBV (29%) and NAFLD (13%). HCC was identified in 10.83% of the patients. Our results were consistent with earlier research. [17] Inconvenient eating habits have been linked to the development of NAFLD [15]. NAFLD may be exacerbated by a lack of good eating habits and a migration to the west [18]. NAFLD and other obesity-related comorbidities may be exacerbated by the use of Western-style meals, such as soft

drinks, sugar, meat, and fast food. As chronic hepatitis B and C viruses are treated with antivirals, the incidence of HCCs linked to these causes is expected to decrease during the next decade. HCC is becoming more linked to obesity and fatty liver, yet the obesity crisis that we are now experiencing will have little effect on this trend. It is possible that changes in nutrition and dietary habits linked with obesity might have a direct influence on HCC illness. There are a variety of processes at play, some of which have been studied in individuals with hepatitis B (HBV) or hepatitis C (HCV). [19]

There was a 15.03±6.45-day increase in hospital stay in our research among individuals consuming meat at a rate more than or equal to 60 mg/day, compared to a 5.12±4.45 -day decrease in hospital stay in group II. Meat consumption has previously been linked to an increased risk of developing chronic liver disease. [20] Fatty flake meat, which contributes to increased scarring and inflammation, is present even in haem iron [20,21]. Red meat also includes significant levels of cholesterol and fat in connection to proven cancer risk factors, such as obesity, diabetes, and metabolic disorder. Meat processing and storage may also produce potentially carcinogenic chemicals, such as N-nitroso compounds[21]. The polyunsaturated fatty acids found in fish and poultry, on the other hand, help to prevent tumor-necrosis and inflammation. [22]

Patients who consumed more than 60 grammes of red meat per day had a significantly higher death risk (13 % vs. 5%) than those who consumed less than 60 grammes per day, according to a p-value of 0.0004. Meat eating has been linked to an increased risk of liver disease in earlier research. All of these trials had mortality rates that were similar to ours. [23] Patients with cirrhosis who consume a lot of red meat have a lot of negative side effects.

CONCLUSION

Results from this study show that people with cirrhosis are more likely to suffer from unfavourable outcomes if they consume a diet high in red meat.

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