

**THE STUDY OF OSTEOPOROSIS PREVALENCE IN PATIENTS OF LIVER
CIRRHOSIS**^{1*}Jannat Anjum, ²Bushra Gull, ³Muhammad Bilal¹Sargodha Medical College, Sargodha.²D.G. Khan Medical College, Dera Ghazi Khan.³Faisalabad Medical University, Faisalabad.***Corresponding Author: Jannat Anjum**

Sargodha Medical College, Sargodha.

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ABSTRACT

Objective: The primary objective of this study was to detect the osteoporosis prevalence in patients of Liver cirrhosis. **Place and duration of study:** The study was conducted for six months in the DHQ Teaching Hospital in Sargodha between November 2019 and April 2020. **Materials and Methods:** Fifty patients were selected for the study. Men and women were included randomly in this study. Only those patients were selected who were willing to participate in this study. Hepatitis B or C was the reason for hepatitis C in all patients at median age 40-70. DEXA scans were obtained in all patients and osteoporosis was considered if the T-value was below 2.5. All patients or members of the family have been informed. **Results:** Of the 50 patients selected, 36% were female and 64% male. The average age of the patients was 47 years. Osteoporosis was detected in 14 patients (28 per cent). Ten (31.25%) males were affected, with a higher female percentage. Increased incidence in patients with increasing ages has been observed. The incidence was not related to the patient's cirrhosis duration. **Conclusion:** Osteoporosis is common in liver cirrhosis and occurs every fourth or fifth patient with cirrhosis. It is often ignored and regarded as insignificant. The age increase increases the complications.

KEYWORDS: DEXA scan, Cirrhosis, Osteoporosis.**INTRODUCTION**

Fibrotic changes in standard liver architecture are defined as cirrhosis that is initially reversible but subsequently irreversible, ultimately leading to liver failure. In different sentences, swelling and re-growth lead to fibrosis. This process is irreversible and can lead to serious health problems and death of patients. The prevalence is different in various areas of the world, but it is higher than in other countries in the underdeveloped countries such as India, Bangladesh and Pakistan. A variety of complications may develop, such as ascites, osteoporosis, encephalopathy, hepatorenal and oesophagus syndrome. Osteoporosis of the cirrhotic liver has been ignored and treated as a minor complication in the past, but has received serious attention recently. Bone mineral density is decreased in osteoporosis. Recent studies show a higher frequency of bone demineralization in patients with liver cirrhosis than those without cirrhosis. Almost 20 to 420 lake patients are affected. Development of Osteoporosis depends on age, smoking, female sex, lower sunlight exposure, genetics and other factors such as drinking habits and diabetes. Variable cytokines and intermediaries, such as fibronectin and insulin-like growth factors, have a

significant impact on the development of diseases, but the only cause for osteoporosis remains controversial for liver cirrhosis. The DEXA scan is the most frequently used bone density measurement test. In his study, Javed M et al. reported 26% osteoporosis incidence while Cijevski C et al. reported a 38% incidence.

MATERIALS AND METHODS

This study was carried out from November 2019 to April 2020 in the DHQ Teaching Hospital in Sargodha for six months. Fifty patients were selected for the study. Both men and women were included randomly in this study. Only those patients were selected who were willing to participate in this study. The mean age was 40 to 70 years, and the reason for liver cirrhosis was either Hepatitis B or C in all patients. DEXA was obtained in all patients, and osteoporosis was considered when the T value was less than 2.5. All patients or their relatives received informed consent.

RESULTS

Of the 50 patients selected, 36 per cent were females, and 64 per cent were male. The mean age of the patients

was 47 years. Osteoporosis has been detected in 14 patients (28 per cent). 10 (31.25%) males were affected, and the females' percentage was more extensive. Increased incidence was observed in increasing-age patients. The incidence was not related to the patient's cirrhosis duration.

DISCUSSION

Cirrhosis can lead to portal hypertension, cyanosis, ascites, webs of oesophagus, clubbing and various systemic problems that increase the rate of deaths. Cirrhosis can lead to several system failures that increase morbidity and mortality. Other related complications like decreased sunlight exposure and oral intake leading to osteoporosis are also increased. In our study, 28% of cirrhosis-related osteoporosis incidences are found close to other studies with an incidence of 20-50%. The results generally vary due to the various indicators used to gather data and the method used to measure bone density. Bone density is usually measured from bones with high pressure, such as the vertebrae and the heel. Javed M *et al.* used the same parameters and showed the same results with a 26 percent incidence. With the age rise, the rate of incidence increased to 33.3%. The same correlation with age was shown in previous studies. The highest risk of osteoporosis is age increases.

CONCLUSION

Osteoporosis is prevalent in liver cirrhosis and osteoporosis occurs each fourth or fifth cirrhosis patient. It is often overlooked and considered insignificant. The increase in age increases the complications.

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