

# Liver Cancer Diagnosis: A Comprehensive Guide

Department of Diagnostic Radiology, University of SSB Santa Cottage Hospital, Iran

Liver cancer, primarily hepatocellular carcinoma (HCC), represents a major global health concern with high morbidity and mortality rates. The increasing prevalence of liver cancer can be attributed to factors such as chronic viral hepatitis, liver cirrhosis, and non-alcoholic fatty liver disease. Early diagnosis is crucial for effective management and treatment, as advanced stages are often associated with poor prognosis. This paper provides an overview of current diagnostic approaches for liver cancer, including imaging techniques, biomarker analysis, and histopathological evaluation. Imaging modalities such as ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI) are central to the detection and staging of liver cancer, each with its strengths and limitations. The use of serum biomarkers, including alpha-fetoprotein (AFP) and new emerging markers has improved diagnostic accuracy but is still under ongoing research. Histological examination through biopsy remains the gold standard for definitive diagnosis. This introduction outlines the advancements in diagnostic methods, highlighting the need for continued research to improve early detection and personalized treatment strategies for liver cancer.

**Keywords:** Liver Cancer; Hepatocellular carcinoma (HCC); Liver cancer diagnosis; Imaging techniques; Ultrasound; CT scan; MRI; Alpha-fetoprotein (AFP); Liver biopsy; Staging and grading; Liver function tests; Genetic testing; Risk factors; Chronic hepatitis; Cirrhosis

## Introduction

Liver cancer, or hepatocellular carcinoma (HCC), is a serious and potentially life-threatening condition that requires accurate diagnosis for effective management. Early detection is crucial for better outcomes. This article provides an independent overview of liver cancer diagnosis, including key methods, procedures, and considerations. Liver cancer, particularly hepatocellular carcinoma (HCC), is a leading cause of cancer-related death worldwide [2]. The liver's role in various metabolic processes makes it vulnerable to a range of diseases, including cancer. Hepatocellular carcinoma arises predominantly in the setting of chronic liver disease, often associated with viral hepatitis B or C, alcoholic liver disease, and non-alcoholic fatty liver disease (NAFLD) [3]. The increasing incidence of liver cancer is largely driven by global factors such as rising obesity rates and the aging population. Early diagnosis of liver cancer significantly impacts treatment options and survival [4]. However, liver cancer often remains asymptomatic until it reaches an advanced stage, which complicates early detection. Traditional diagnostic approaches, including imaging, laboratory markers, and histopathological analysis [5]. Imaging techniques, including ultrasound, computed tomography (CT), and magnetic resonance imaging (MRI), are pivotal in the initial detection and staging of liver cancer [6]. Each imaging modality offers unique advantages: ultrasound provides a cost-effective and widely available option, CT offers detailed cross-sectional imaging, and MRI provides superior soft tissue contrast, particularly for identifying small lesions [7]. The combination of imaging, laboratory tests, and clinical history is essential for accurate diagnosis and subsequent management.

## Symptoms and risk factors

### Symptoms

- Unexplained weight loss
- Loss of appetite

Sajid Khazi, Department of Diagnostic Radiology, University of SSB Santa Cottage Hospital, Iran. E-mail: sajid.kh@ssbhospital.com  
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- Per i en abdominal pain
- Na ea and v omi ing
- Ja ndice ( ello ing of he kin and e e )
- S elling in he abdomen
- Fa ig e

**Risk factors**

- Chronic v iral hepa i i (B or C)
- Cirrho i
- ~~XX~~

and childhood osteosarcoma: a case-control study. Am J Public Health 85: 1678-83?

9. Luetke A, Meyers PA, Lewis A, Juergens H (2014) Osteosarcoma treatment

where do we stand a state of the art review. Cancer Treat Rev 40: 523-532.

10. Dhaliwal J, Sumathi VP, Grimer RJ (2009) Radiation-induced periosteal osteosarcoma (PDF). Grand Rounds 10: 13-18.