

Name of Journal: *Artificial Intelligence in Gastroenterology*

Manuscript NO: 62285

Manuscript Type: MINIREVIEWS

Clinical value of artificial intelligence in hepatocellular carcinoma: Current status and prospect

Yi PS *et al.* AI in HCC

Peng-Sheng Yi, Chen-Jun Hu, Chen-Hui Li, Fei Yu

abstract

Hepatocellular carcinoma (HCC) is the most commonly diagnosed type of liver cancer, and the fourth leading cause of cancer-related mortality worldwide. The early identification of HCC and effective treatments for it have been challenging. Due to the

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Background: Prediction of survival after the treatment of **hepatocellular carcinoma** (HCC) has been widely investigated, yet remains inadequate. The application of **artificial intelligence** (AI)...

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Hepatocellular carcinoma (HCC) is the most common form of primary adult liver cancer. After nearly a decade with sorafenib as the only approved treatment, multiple new agents have



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Feb 28, 2020 · Furthermore, as **artificial intelligence** (AI), especially machine learning and deep learning, has found popular applications in **clinical cancer** research in recent years, **cancer** prediction performance has reached new heights. This article reviews the literature on the application of AI to **cancer diagnosis and prognosis**, and summarizes its advantages.

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Author: Shigao Huang, Jie Yang, Simon Fong, Si...

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Aug 01, 2020 · 3.2. AI and chemotherapy. In the field of **cancer** chemotherapy, AI focuses more on the response between drugs and patients. The main application achievements of AI include management of chemotherapy drug use, prediction of chemotherapy drug tolerance and optimization of chemotherapy program [, . .].AI can perfect and accelerate the optimization process of combined chemotherapy.

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Objective: To apply **artificial intelligence** technology in **clinical** real-world data of patients with primary **hepatocellular carcinoma**, explore the precise treatment of disease and build up **artificial intelligence**-based **clinical** decision support system. Methods: A total of 5 642 patients with primary **hepatocellular carcinoma** admitted to West China Hospital from July 2004 to June 2016 with ...

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[Research progress of radiomics with **artificial intelligence** in precise diagnosis and treatment of **hepatocellular carcinoma**] Zhonghua Gan Zang Bing Za Zhi . 2020 Nov 20;28(11):905-909. doi: 10.3760/cma.j.cn501113-20201022-00573.

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Primary liver **cancer** is the fifth- leading cause of **cancer**-related death in men and seventh-leading cause of **cancer**-related death in women in the U.S. 1 Worldwide, the most common risk factors for

Hepatocellular Carcinoma

Medical Condition

The most common form of liver cancer often seen in people with chronic liver diseases like cirrhosis.

 Rare (Fewer than 200,000 cases per year in US)

 May be preventable by vaccine

 Often requires lab test or imaging

 Treatment from medical professional advised

 Can last several months or years

Caused mainly due to the chronic infection of the liver or DNA mutation of the liver cells. Characterized by unexplained weight loss, upper abdominal pain and yellowing of the skin. Treatment options include hepatectomy, target drug delivery and the use of radiation to kill the cancerous cells.

Symptoms

The early stages of the disease do not present any symptoms but in the later stages the symptoms which are noted are as follows:

- Upper abdominal pain
- Weight loss
- Jaundice
- Fluid in the abdomen
- Liver failure

Treatments

Treatment option which is employed depends on the stage of the condition, size and location of the tumor.

Medication

- Chemotherapy: Therapy where the drugs are used to kill the cancer cells.
5-Fluorouracil · Capecitabine · Irinotecan · Oxaliplatin
- Target drug delivery: Drugs which are target oriented help in slowing down the progression of the disease