

Supplementary Table 4A. Grading of the responses from the ChatGPT Language Model for the published HCC surveillance knowledge questionnaires
 Article title: Physician- and patient-reported barriers to hepatocellular carcinoma surveillance: A nationwide survey

Questions	Responses 1	Responses 2	Reviewer Grade 1. Comprehensive 2. Correct but inadequate 3. Mixed with correct and incorrect/outdated data 4. Completely incorrect
<p>In your opinion, which of the following patients are high-risk groups for hepatocellular carcinoma and should undergo surveillance? (Select all that apply.)</p> <ol style="list-style-type: none"> 1. Patient with cirrhosis 2. All patients with chronic HBV infection 3. Patient with chronic HBV infection who fulfills indication for HCC surveillance 4. All patients with chronic HCV infection 5. Patient with chronic HCV infection who fulfills indication for HCC surveillance 6. None are at risk 	<p>Patient with cirrhosis All patients with chronic HBV infection All patients with chronic HCV infection Patient with chronic HCV infection who fulfills indication for HCC surveillance</p> <p>Patients with cirrhosis and those with chronic HBV or HCV infection are considered high-risk groups for hepatocellular carcinoma (HCC) and should undergo surveillance. Additionally, patients with chronic HBV or HCV infection who fulfill the indications for HCC surveillance should also undergo surveillance.</p>	<p>Patient with cirrhosis All patients with chronic HBV infection All patients with chronic HCV infection Patient with chronic HCV infection who fulfills indication for HCC surveillance</p>	3
<p>What is/are the optimal tool(s) for HCC surveillance? (Choose only one answer.)</p> <ol style="list-style-type: none"> 1. Upper abdominal ultrasonography only 2. Serum alpha-fetoprotein only 3. Upper abdominal ultrasonography as the main screening tool with serum alpha-fetoprotein as an optional tool 4. Upper abdominal ultrasonography or serum alpha-fetoprotein 5. Upper abdominal ultrasonography and serum alpha-fetoprotein 6. CT or MRI of upper abdomen 7. Ultrasonography or CT or MRI of upper abdomen 	<p>The optimal tool for HCC surveillance is Upper abdominal ultrasonography and serum alpha-fetoprotein (Option 5) as they are considered to be the most effective and efficient tools for HCC surveillance. It is recommended to use both tools in combination to increase the sensitivity and specificity of HCC detection.</p>	<p>The optimal tool for HCC surveillance is Upper abdominal ultrasonography and serum alpha-fetoprotein (Option 5) as they are considered to be the most effective and efficient tools for HCC surveillance. It is recommended to use both tools in combination to increase the sensitivity and specificity of HCC detection.</p>	1/2
<p>Which is the recommended interval for HCC surveillance? (Choose only one answer.)</p> <ol style="list-style-type: none"> 1. Every 3 months 2. Every 6 months 3. Every 6-12 months 4. Every 12 months 5. More than 12 months 6. Only in symptomatic patients 	<p>The recommended interval for HCC surveillance is Every 6 months (Option 2) for high-risk patients such as those with cirrhosis or chronic hepatitis B or C. This interval is considered as the most appropriate to detect HCC at an early stage and to improve the chances of survival. It is important to note that the interval may vary depending on the individual patient's risk factors and the stage of the disease.</p>	<p>The recommended interval for HCC surveillance is Every 6-12 months (Option 3) for high-risk patients such as those with cirrhosis or chronic hepatitis B or C. This interval is considered as the most appropriate to detect HCC at an early stage and to improve the chances of survival. It is important to note that the interval may vary depending on the individual patient's risk factors and the stage of the disease, and that regular monitoring and follow up with the treating physician is important to determine the best surveillance interval.</p>	1st response: 2 2nd response: 3
<p>What screening test should be done with patients with Compensated cirrhosis (no ascites and history of variceal bleeding)</p> <ol style="list-style-type: none"> A. Upper abdominal ultrasonography only B. Serum alpha-fetoprotein only C. Upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool D. Upper abdominal ultrasonography or serum alpha-fetoprotein E. Both upper abdominal ultrasonography and serum alpha-fetoprotein F. CT or MRI of upper abdomen G. The patient has no indication for HCC surveillance. 	<p>E. Both upper abdominal ultrasonography and serum alpha-fetoprotein</p> <p>Compensated cirrhosis is a stage of liver disease in which the liver is damaged and not functioning optimally, but the person does not have symptoms or complications such as ascites or variceal bleeding. It is important to monitor patients with compensated cirrhosis for the development of complications and to identify liver cancer (hepatocellular carcinoma, HCC) early, as it can be cured if caught at an early stage. Both upper abdominal ultrasonography and serum alpha-fetoprotein are recommended as screening tests for HCC in patients with compensated cirrhosis. Other imaging tests, such as CT or MRI, may also be used.</p>	<p>E. Both upper abdominal ultrasonography and serum alpha-fetoprotein are recommended as screening tests for patients with compensated cirrhosis. Ultrasonography is the primary screening tool, as it is noninvasive and can detect small hepatocellular carcinomas (HCCs) that may not be detectable by other means. Serum alpha-fetoprotein is a secondary screening tool that can be used to confirm the diagnosis of HCC. The combination of these two tests is the most effective way to detect HCC in patients with compensated cirrhosis.</p>	1/2
<p>What screening test should be done with patients with Cirrhosis with ascites</p> <ol style="list-style-type: none"> A. Upper abdominal ultrasonography only B. Serum alpha-fetoprotein only C. Upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool D. Upper abdominal ultrasonography or serum alpha-fetoprotein E. Both upper abdominal ultrasonography and serum alpha-fetoprotein F. CT or MRI of upper abdomen G. The patient has no indication for HCC surveillance. 	<p>E. Both upper abdominal ultrasonography and serum alpha-fetoprotein are recommended as screening tests for patients with cirrhosis and ascites. Upper abdominal ultrasonography is a non-invasive imaging test that uses sound waves to produce an image of the organs in the upper abdomen, including the liver, gallbladder, and pancreas. It is a useful tool for detecting liver abnormalities, such as liver cancer. Serum alpha-fetoprotein (AFP) is a protein produced by the liver that can be measured in the blood. Elevated levels of AFP can be a sign of liver cancer. Therefore, both tests can be useful in detecting liver cancer in patients with cirrhosis and ascites.</p>	<p>The correct answer is E. Both upper abdominal ultrasonography and serum alpha-fetoprotein should be done as screening tests for patients with cirrhosis with ascites. Ultrasonography is a non-invasive, cost-effective method for detecting hepatocellular carcinoma (HCC), which is a common complication of cirrhosis. Serum alpha-fetoprotein (AFP) is a protein produced by liver cells and is elevated in the blood of patients with HCC. Both ultrasonography and AFP are recommended as part of a surveillance program for HCC in patients with cirrhosis.</p>	4

Supplementary Table 4. Continued

Questions	Responses 1	Responses 2	Reviewer Grade 1. Comprehensive 2. Correct but inadequate 3. Mixed with correct and incorrect/outdated data 4. Completely incorrect
<p>What screening test should be done with patients with chronic HBV infection with first degree relative of HCC</p> <p>A. Upper abdominal ultrasonography only B. Serum alpha-fetoprotein only C. Upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool D. Upper abdominal ultrasonography or serum alpha-fetoprotein E. Both upper abdominal ultrasonography and serum alpha-fetoprotein F. CT or MRI of upper abdomen G. The patient has no indication for HCC surveillance.</p>	<p>The correct answer is E: Both upper abdominal ultrasonography and serum alpha-fetoprotein.</p> <p>In patients with chronic hepatitis B virus (HBV) infection, the risk of developing hepatocellular carcinoma (HCC) is increased. Therefore, it is important to regularly monitor these patients for the development of HCC. Upper abdominal ultrasonography and serum alpha-fetoprotein are both recommended as screening tools for HCC in patients with chronic HBV infection. Upper abdominal ultrasonography is a non-invasive imaging test that uses sound waves to create a picture of the liver and surrounding organs. Serum alpha-fetoprotein is a blood test that measures the levels of a protein called alpha-fetoprotein in the blood. Elevated levels of alpha-fetoprotein can be a sign of liver cancer.</p> <p>It is important to note that having a first-degree relative with HCC may also increase the risk of developing HCC, so it is important for these patients to undergo regular HCC surveillance as well.</p>	<p>The correct answer is E: Both upper abdominal ultrasonography and serum alpha-fetoprotein.</p> <p>Chronic hepatitis B virus (HBV) infection is associated with an increased risk of developing hepatocellular carcinoma (HCC), which is a type of liver cancer. Therefore, patients with chronic HBV infection and a first-degree relative with HCC should undergo HCC surveillance.</p> <p>Upper abdominal ultrasonography and serum alpha-fetoprotein are both commonly used for HCC surveillance in patients with chronic HBV infection. Upper abdominal ultrasonography is a non-invasive imaging test that uses high-frequency sound waves to produce images of the liver, gallbladder, and other organs in the upper abdomen. Serum alpha-fetoprotein is a protein produced by liver cells that can be detected in the blood. Elevated levels of alpha-fetoprotein may be a sign of liver damage or cancer.</p> <p>CT or MRI of the upper abdomen can also be used for HCC surveillance, but they are generally not the first choice because they expose the patient to ionizing radiation and are more expensive than ultrasonography.</p>	<p>1/2</p>
<p>What screening test should be done with A 45-year-old man with chronic HBV infection without cirrhosis?</p> <p>A. Upper abdominal ultrasonography only B. Serum alpha-fetoprotein only C. Upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool D. Upper abdominal ultrasonography or serum alpha-fetoprotein E. Both upper abdominal ultrasonography and serum alpha-fetoprotein F. CT or MRI of upper abdomen G. The patient has no indication for HCC surveillance.</p>	<p>The correct answer is E. Both upper abdominal ultrasonography and serum alpha-fetoprotein should be done as screening tests for a 45-year-old man with chronic HBV infection without cirrhosis.</p> <p>Upper abdominal ultrasonography is a commonly used screening tool for detecting liver cancer, including HCC (hepatocellular carcinoma). It is a non-invasive and relatively inexpensive test that uses sound waves to create an image of the liver.</p> <p>Serum alpha-fetoprotein (AFP) is a protein that is produced by the liver and certain other tissues. Elevated levels of AFP in the blood can be a sign of liver cancer.</p> <p>Both of these tests can help to detect HCC in its early stages, when it is more treatable. It is important for individuals with chronic HBV infection to undergo regular HCC surveillance, as they are at increased risk for developing the disease.</p>	<p>E. Both upper abdominal ultrasonography and serum alpha-fetoprotein. It is recommended to perform both upper abdominal ultrasonography and serum alpha-fetoprotein as screening tests for hepatocellular carcinoma (HCC) in individuals with chronic HBV infection, particularly if they do not have cirrhosis. This is because HCC can occur in individuals with chronic HBV infection even in the absence of cirrhosis. Both of these tests have good sensitivity and specificity for the detection of HCC, and their combination can further improve the accuracy of HCC diagnosis. CT or MRI of the upper abdomen may also be used as screening tests, but they are generally more expensive and may not be necessary in all cases.</p>	<p>3</p>

Supplementary Table 4. Continued

Questions	Responses 1	Responses 2	Reviewer Grade 1. Comprehensive 2. Correct but inadequate 3. Mixed with correct and incorrect/outdated data 4. Completely incorrect
<p>What screening test should be done with a 45-year-old woman with chronic HBV infection without cirrhosis?</p> <p>A. Upper abdominal ultrasonography only</p> <p>B. Serum alpha-fetoprotein only</p> <p>C. Upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool</p> <p>D. Upper abdominal ultrasonography or serum alpha-fetoprotein</p> <p>E. Both upper abdominal ultrasonography and serum alpha-fetoprotein</p> <p>F. CT or MRI of upper abdomen</p> <p>G. The patient has no indication for HCC surveillance.</p>	<p>The correct answer is E. Both upper abdominal ultrasonography and serum alpha-fetoprotein should be done for HCC surveillance in a 45-year-old woman with chronic HBV infection without cirrhosis. Upper abdominal ultrasonography and serum alpha-fetoprotein are both important tools for the screening and surveillance of hepatocellular carcinoma (HCC) in patients with chronic HBV infection. CT or MRI of the upper abdomen may also be used for HCC surveillance, but ultrasonography and alpha-fetoprotein are generally the primary screening tests.</p>	<p>It is generally recommended to screen individuals with chronic HBV infection for the development of hepatocellular carcinoma (HCC), including with upper abdominal ultrasonography and serum alpha-fetoprotein testing. Option E (both upper abdominal ultrasonography and serum alpha-fetoprotein) would be the most appropriate choice for HCC surveillance in a 45-year-old woman with chronic HBV infection. Option C (upper abdominal ultrasonography as the main screening tool with serum alphafetoprotein as an optional tool) is also a reasonable choice. Option A (upper abdominal ultrasonography only) and option B (serum alpha-fetoprotein only) would not be as thorough as using both tests, as they would only detect HCC in certain situations. Option F (CT or MRI of upper abdomen) would also be a reasonable choice, although it may be more costly and not always necessary. Option G (the patient has no indication for HCC surveillance) is incorrect, as individuals with chronic HBV infection are at increased risk for developing HCC and should undergo regular surveillance for the disease.</p>	<p>4</p>