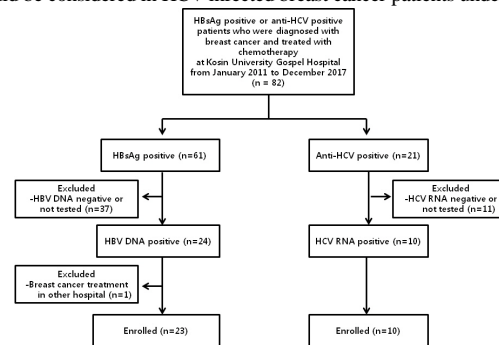


The need for chronic hepatitis C treatment in patients with breast cancer undergoing chemotherapy

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Background/Aims: Breast cancer patients who are infected with hepatitis B virus (HBV) should receive antiviral drugs if they receive chemotherapy (CTX). There is a lack of data on whether clinically significant liver disease occurs when a patient with breast cancer infected with chronic hepatitis C (HCV) receives CTX. This study was performed to find how clinically significant liver disease is induced by CTX in HCV patients with breast cancer. **Methods:** We retrospectively analyzed HBsAg positive or anti-HCV positive patients who were diagnosed with breast cancer and treated with CTX at Kosin University Hospital from January 2011 to December 2017. Liver toxicity was defined when Aspartate aminotransferase (AST), alanine aminotransferase (ALT), or total bilirubin (TB) levels were elevated more than twice the upper normal limit (UNL). Clinical significance of HCV related liver disease was defined when the CTX was performed later than the anticipated schedule. Liver cirrhosis (LC) was diagnosed comparing computed tomography (CT) prior to CTX and the last follow-up. **Results:** Sixty-one patients were HBsAg positive and 21 positive for anti-HCV and none were co-infected. Among HBsAg positive patients, 23 were positive for HBV DNA, and 10 were positive both anti-HCV and HCV RNA. Twenty out of 23 patients with positive HBV DNA were received antiviral drugs. However, HCV RNA positive patients were not treated. Liver toxicity was developed in 47.8% (11/23) HBV patients, and 34.8% (8/23) delayed in CTX. Eighty percent (8/10) HCV patients experienced liver toxicity and 40% (4/10) delayed in CTX. Moreover, 20% (2/10) HCV patients diagnosed with newly developed LC on CT after CTX (mean duration=70.5 months). None of HBV patients whose liver was normal (21/23) at baseline progressed to LC till last follow up CT. The other 2 patients had LC at baseline and received antiviral drugs prior to CTX. None of them experienced hepatic dysfunction after CTX. **Conclusions:** Twenty percent of HCV infected breast cancer patients diagnosed with newly developed LC on CT after CTX. Therefore, antiviral drugs should be considered in HCV infected breast cancer patients undergoing CTX to prevent liver toxicity and LC.



First-Year Clinical Outcomes after Heart Transplantation; Recurrent HCC After the Fontan Procedure.

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Fontan procedure is a procedure diverting the systemic venous return to pulmonary circulation in patients with single ventricle physiology. After this procedure, systemic venous congestion lead to cardiac cirrhosis and it can develop hepatocellular carcinoma. We report a case of a 29-year-old female patient, who underwent Fontan operation for her transverse of great arteries with ventricular septal defect, tricuspid atresia, atrial septal defect, pulmonary stenosis, patent ductus arteriosus at the age of 43 months. She had no congenital or acquired etiology of hepatocellular carcinoma, except having undergone the Fontan operation. Without the correction of the congestive hepatopathy, she experienced recurrent HCC which was diagnosed by liver computed tomography, liver magnetic resonance imaging and elevated alpha fetoprotein, even after multiple trans-arterial chemoembolization and radiofrequency ablation. For the first year after the heart transplantation, however, there has been no evidence of tumor recurrence. There are two notable talking points in this case study. First, in previous case reports, including those with incomplete descriptions of clinical course, more than half of HCC patients who had received the Fontan procedure eventually expired due to HCC or other complications. In contrast, this patient was stabilized in no evidence of disease status after receiving three rounds of chemotherapy (TACE, RFA, etc.) on HCC which occurred post-Fontan operation. Second, despite a larger than normal susceptibility to tumor development due to immunosuppressant agents taken after heart transplantation, the patient shows no signs of recurrence to this day, after one year of no evidence of disease. The fact that there was no HCC recurrence after correcting congestive hepatopathy with heart transplantation means this patient's principal insult was cardiac cirrhosis due to congestive hepatopathy. There have also been other cases that confirmed a normalization of cardiac cirrhosis after heart transplantation.

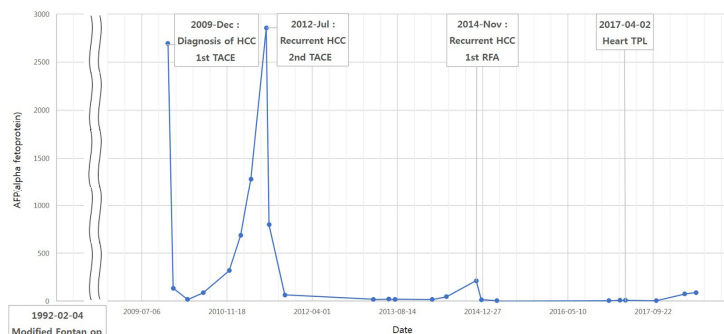


Figure 1. Major events and change in level of alpha fetoprotein according to date. HCC, hepatocellular carcinoma; TACE, trans-arterial chemoembolization; RFA, radiofrequency ablation; TPL, transplantation; op, operation