

Study finds beta blockers alone more effective for first variceal bleeding

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A controlled trial conducted by researchers at the E-DA Hospital in Kaohsiung, Taiwan, suggests that a combination of band ligation and nadolol may not be the most effective prophylaxis for first variceal bleeding resulting from cirrhosis. Results of this study appear in the July issue of *Hepatology*, a journal published by Wiley-Blackwell on behalf of the American Association for the Study of Liver Diseases (AASLD).

Esophageal varices (EV) are abnormally enlarged veins in the esophagus that occur when portal hypertension obstructs normal blood flow to the liver and causes the blood to back up into the esophageal vessels. Variceal rupture is a life-threatening condition. Approximately one third of cirrhotic patients with esophageal varices bleed, and the mortality rate associated with first bleed may be as high as 50%.

The World Gastroenterology Organization practice guideline for esophageal varices in patients with cirrhosis and medium or large varices, but no hemorrhage, recommends nonselective [beta blockers](#) (propranolol or nadolol) or endoscopic variceal ligation (EVL) for prevention of first variceal hemorrhage for patients at highest risk, and propranolol or nadolol for those who are not high risk or in whom EVL is not tolerated.

Beta blockers are generally considered the treatment of choice for [prophylaxis](#) of first variceal bleeding. A noninvasive method, beta blockers are able to reduce portal pressure, thus reducing the risk of variceal bleeding. While some studies suggest that EVL is superior to

beta blockers, it is also associated with serious complications. The Taiwan study was conducted to evaluate the effectiveness of both treatments administered in combination.

Study leader Gin-Ho Lo, M.D. explained the rational behind testing these treatment approaches together. "The strength of EVL lies in its ability to obliterate varices, but portal pressure may be elevated after repeated procedures. Moreover, varices frequently recur after variceal obliteration achieved by EVL and beta blockers were documented to be able to reduce variceal recurrence. A combination of nadolol and EVL has been well established in preventing secondary variceal bleeding, but the effectiveness of this approach is unknown in preventing the first variceal bleeding."

Cirrhotic patients with high-risk esophageal varices but without bleeding history were enrolled in the randomized study. Eligible patients were required to have [portal hypertension](#) resulting from cirrhosis; moderate varices associated with red color signs (red wale markings, cherry red spots); no history of hemorrhage from esophageal varices or other upper gastrointestinal lesion; and no current treatment with beta-blockers. Seventy patients received band ligation plus nadolol and seventy received nadolol alone.

Patients in the combined group received regular ligation treatment at an interval of 4 weeks until variceal obliteration. Nadolol was administered at a dose to reduce 25% of pulse rate in both groups. During a median follow-up of 26 months, 18 patients (26%) in the combined group and 13 patients (18%) in nadolol group experienced upper gastrointestinal bleeding. Esophageal variceal bleeding occurred in 10 patients (14%) in the combined group and 9 patients (13%) in nadolol group. Adverse events were noted in 48 patients (68%) in the combined group and 28 patients (40%) in nadolol group. Sixteen patients in each group died, mostly from hepatic failure or sepsis.

"Our findings indicated that the addition of ligation to nadolol may increase adverse events and does not enhance effectiveness in preventing first variceal bleeding, concluded Dr. Lo. "Previous meta analysis of trials found that severe adverse events were significantly less in EVL compared with [beta blockers](#). Based on our observation, nadolol alone did not cause severe adverse events if nadolol was reduced or discontinued in patients who reported side effects. The value of EVL in combination therapy requires further investigation."

More information: "A Controlled Trial of Ligation Plus Nadolol Vs. Nadolol Alone for the Prevention of First Variceal Bleeding." Gin-Ho Lo, Wen-Chi Chen, Huay-Min Wang, Ching-Chang Lee. Hepatology; Published Online: February 23, 2010 ([DOI:10.1002/hep.23617](https://doi.org/10.1002/hep.23617)); Print Issue Date: July 2010.

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