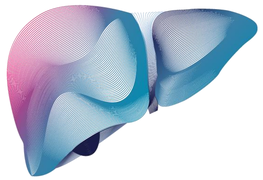
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Baveno VII algorithm can avoid endoscopic surveillance in patients with cirrhosis

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Introduction

Baveno VI criteria combined with spleen stiffness measurement (SSM) ≤ 40 kPa (Baveno VII algorithm) can safely rule out high-risk varices (HRV) and avoid esophagogastroduodenoscopy (EGD) screening[1].

Aim

With a prospective cohort of cirrhosis patients having paired EGDs assessments, the present study aimed to validate the performance of Baveno VII algorithm in avoiding endoscopic surveillance in cirrhosis patients.

Method

The present study was a prospective study. Patients with cirrhosis were enrolled from April 2019 to February 2020 for endoscopic screening analysis (NCT04123509; NCT04890730). Endoscopic surveillance was performed and recorded in studied patients from June 2020 to April 2022. Liver and spleen transient elastography and EGD were performed within one month. Patients were followed up every 6 months at the clinic, and liver related events including clinical significant ascites, variceal bleeding, overt hepatic encephalopathy, HCC development and death were documented.

Conclusions

We have validated that the Baveno VI criteria and Baveno VII algorithm(Baveno VI criteria combined with SSM ≤ 40 kPa) both can safely avoid EGDs surveillance. Baveno VII algorithm is able to avoid more unnecessary EGDs surveillance than Baveno VI criteria in compensated liver cirrhosis patients. The Baveno VII algorithm was able to rule out HRVs safely with HRV missing rate (missed/total) <5%, and over a half of EGD procedures were spared at both screening and surveillance. As well as Baveno VII algorithm was developed to detect cirrhotic patients with high risk of decompensation.

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Contact information

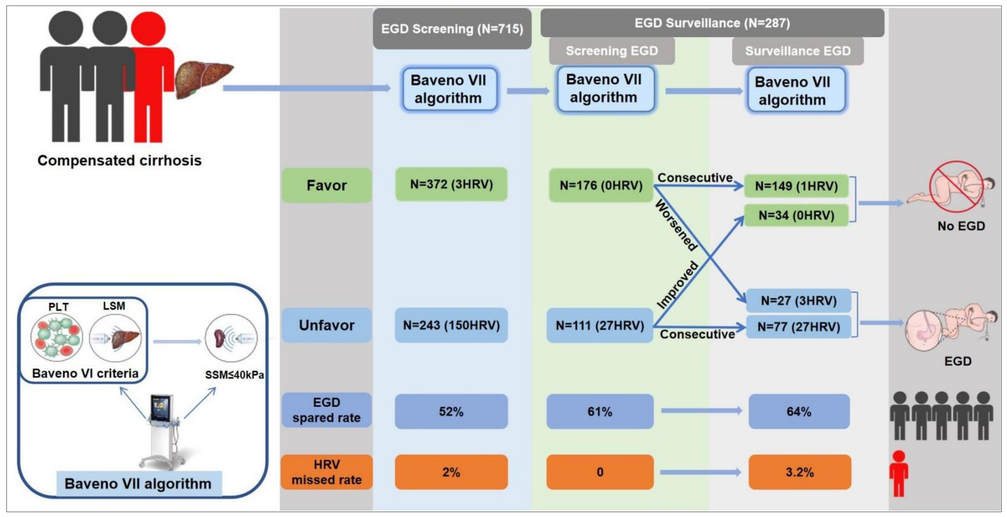
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Results

Overall 715 compensated liver cirrhosis patients were enrolled into screening analysis, of which 287 patients with paired EGDs were further analyzed. At screening, 153 (21.4%) patients had HRVs. Baveno VII algorithm with HRV missing rate at 2.0% (3/153) can avoid more EGDs than Baveno VI criteria (52.0% vs 32.7%, p＜0.001). Of the 287 patients, 27 patients were HRVs. Baveno VII algorithm can avoid 61.3% (176/278) endoscopic screening without (0/27) missing HRV. The distribution of varices at baseline in the 287 patients was as follows: no EV: 111 (38.7%), low-risk varices (grade 1 EV without red sign): 149 (51.9%), and high-risk varices: 27 (9.4%). During 17 (12-24) months follow-up, of the 111 patients without EV at baseline, 35 (31.5%) progressed to low-risk varices at follow-up. In the 149 patients with low-risk varices, varices disappearance of varices at follow-up was found in 19 patients, and 7 cases progressed to HRV. Of the remaining 27 patients with HRV at baseline, 3 regressed to low-risk varices and 24 remained as HRV at follow-up. Eventually, the distribution of varices at follow-up were as follows: no EV: 95 (33.1%), low-risk varices: 161 (56.1%), and HRV: 31 (10.8%). At follow-up, 31 HRV was eventually diagnosed and 27 found in patients with consecutive unfavored Baveno VII status, 3 in worsening Baveno VII status and 1 in consecutive favored Baveno VII status. Baveno VII algorithm spared 63.8% (183/287) EGDs surveillance and only one HRV was missed (3.2%, 1/31). Baveno VII algorithm can avoid more EGDs than Baveno VI criteria both at screening (61.3% vs 40.8%, p＜0.001) and surveillance (63.8% vs 50.5%, p=0.001). In the whole 715 patients, after 33 months of follow-up, Baveno VII algorithm could be a predictive model to detect patients with low risk of decompensation.

Abstract Figure



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Cirrhosis and complications
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