

Tolerance of carvedilol in patients with advanced cirrhosis

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Background

Variceal bleeding is a major event in the natural history of end-stage liver disease with a high mortality rate (20-30%). Non-selective β -blockers are currently the pharmaceutical intervention of choice for primary and secondary prevention of variceal bleeding. The effect of carvedilol, a non-selective β and α -1 receptor-blocker, on lowering portal pressure has been found to be superior to propranolol in studies investigating acute and chronic hemodynamic parameters. Carvedilol has also been compared with band ligation for primary prevention against variceal bleeding with results equivalent to those of band ligation. Patient tolerance to carvedilol in advanced liver disease remains a source of concern. We assessed tolerance profile of carvedilol in patients with cirrhosis and large oesophageal varices, managed through our service.

Aim

To assess patient tolerance of long term administration of carvedilol

Material and methods

Questionnaires were given to all patients with advanced liver disease taking carvedilol for primary or secondary prevention of variceal bleeding, who were either managed as an inpatient or outpatient over the last 3 months. We retrospectively assessed patient charts for the etiology of liver disease and the most recent MELD score.

Total daily dose of carvedilol (mg)	N = 43	%
3.125	1	2
6.25	6	14
12.5	16	37
25	17	40
unknown	3	7

Etiology of liver disease	N = 43	%
ALD	20	47
NAFLD	5	11
Cryptogenic	4	9
HCV	3	7
AIH	3	7
other	6	14
unknown	2	5

Results

In the assessed population (n=43, 27 males, 16 females), the average age was 53,65 years (26-74), with the average MELD score of 12.25 (5-43). Etiology of liver disease (n=43): 47% was ALD, 11% NAFLD, 9% cryptogenic, 7% HCV, 7% AIH, and one of each: PBC, PSC, SBC, M.Byler, Wilson's disease, HBV. 11 (25%) of all patients had ascites.

23 (62%) were taking Carvedilol for more than a year, and 14(38%) for less than a year. Only 4 (11%) had withheld the therapy for more than a week and none had stopped carvedilol therapy. Dosing regimes at the time of questionnaire were in the range of 3.125mg to 25mg, the average dose of 16,16 mg. 2 patients did not specify the dosage.

Overall, 23 (53%) patients admitted to experiencing one or more of the following adverse effects: hypotension 11 (48%), weight gain 8 (35%), worsening of ascites 4 (17%), dizzy spells 5 (22%), fatigue 3 (13%), breathing difficulties 3 (13%). 5 (22%) had listed more than one adverse effect. On reducing the dose, 7 (30%) stated the complete remission of adverse effects, no change was seen in 2 (8%) and in 14 (60%) the dose reduction was not needed.

According to our records, 19 (44%) of all assessed patients were receiving therapy for the primary and 24 (66%) for the secondary prevention of variceal haemorrhage. The variceal bleeding occurred in 5 (26%) from the primary prevention group and in 6 (25%) from the secondary prevention group.

In the secondary prevention group, HVPG was performed in 8 (33%) with the average value of 18,6 mmHg (8-23). 6 (75%) of these patients were non-responders to carvedilol and in 2 the TIPS was done.

	N = 43	%	Variceal bleeding on therapy
Primary prevention	19	44	5 (26%)
Secondary prevention	24	66	6 (25%)

Adverse effects	N = 23	%
hypotension	11	48
weight gain	8	35
dizzy spells	5	22
worsening of ascites	4	17
fatigue	3	13
dyspnoea	3	13
more than one adverse effect	5	22

Conclusions

Carvedilol treatment was well tolerated in more than a half of the patients in everyday clinical practice in the management of ESLD. None of our assessed patients had to stop the therapy due to its adverse effects and only 1 in 10 patients had withheld the treatment for more than a week.

This suggests that as the first line pharmaceutical therapy in primary and secondary prevention of the variceal bleeding, Carvedilol has a mild adverse affect profile and is well tolerated by the majority of patients.

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For further information

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