

INTRODUCTION: The effects of propranolol and nitrates on the cardio-respiratory function of cirrhotic patients are not known. **METHOD:** We performed a cross over study in 14 cirrhotic patients [age 45.4yrs (30-57); mean (range)] with oesophageal varices who were Child's grade A (8/14) or B (6/14). All had normal PEF, ECG, chest X-ray, ECHO cardiography (EF>55%), spirometry, absent intra-pulmonary arterio-venous shunts (IPAVS) on contrast ECHO, and haemoglobin >11g/dl. We measured changes in respiratory rate, pulse rate, tidal volume, minute ventilation and capillary O₂ saturation during progressive exercise up to 100 watts at 10min. Testing was done on inclusion, after one month of treatment with propranolol and after another month of treatment with propranolol plus sorbitrate 10mg thrice daily (propranolol dose adequate for 25% reduction in resting pulse rate).

RESULTS: Hb levels did not change significantly during study period.

Parameter	Before Rx	After Propranolol	After Combined Rx
PR/min; mean(SD)	132(12)	101 (9) =23, p<0.001 *	97(8)=26%;p<0.001*
TV(L); mean(SD)	1.32(0.16)	0.98(0.12), p<0.001*	0.98 (0.13); p<0.001*
IV(L/min);mean(SD)	31.4(2)	26.6 (2.5), p<0.001 *	27.6 (3); p<0.001
O ₂ ;mean (mode)	96% (96%)	97% (97%),p=0.16*	97.5% (98%); p=0.3*
SD (range)	1.4(94-99)	1.3 (96-99)	0.9 (96-99)

(PR: pulse rate, TV: tidal volume, IV: total inspiratory volume, * Compared with values before treatment; no significant difference between propranolol and combined treatment)

There were no significant differences in blood pressure and respiratory rate.

CONCLUSIONS: Neither propranolol nor nitrates cause deterioration in exercise capacity in cirrhotic patients with portal hypertension who have no IPAVS. Changes in cardio-respiratory functions are similar to that reported in normal individuals given beta blockers.