Table 5 Univariate analysis of factors associated with NR in 55 patients with genotype 1 continued PEGIFN/RBV >12 weeks

	NR (n = 17)	TR+SVR (n = 38)	P value
Gender (male/female)	8/9	31/7	0.022
Age (years)*	66 (53–83)	67 (48–80)	0.75
Body mass index (kg/m^2)*	22.2 (19.3–30.0)	21.2 (15.6–28.5)	0.86
White blood Cell (×10^3/μL)*	5050 (4390–6130)	4280 (2470–6660)	0.6
Haemoglobin (g/dL)*	12.6 (9.3–17.4)	13.7 (8.7–15)	0.66
Platelet count (×10^4/mm^3)*	10.1 (4.7–18.2)	12.1 (3.9–19.6)	0.43
T-bilirubin (mg/dL)*	0.7 (0.4–1.7)	0.8 (0.4–2.3)	0.45
Alanine aminotransferase (IU/L)*	45 (19–134)	45 (12–189)	0.75
Prothrombin time activity (%)*	86 (64–121)	88 (69–112)	0.79
Albumin (g/dL)*	3.8 (2.7–4.9)	4 (3.4–5.2)	0.106
Fibrosing stage(F1-3/F4/ND)	3/8/6	9/9/20	0.21
γ-glutamyl transpeptidase (IU/L)*	52 (12–219)	26 (15–294)	0.113
HbA1c (%)*	5.3 (4–10.8)	5.2 (4.2–8.8)	0.99
Indocyanine green retention rate (%)	18.7 (7.6–45.4)	15.4 (8–29.2)	0.21
HCV viral load (Log IU/mL)*	6.28 (2.1–6.7)	6.18 (1.2–6.7)	0.25
HCV Core70 (mutant/wild)	11/6	20/18	0.55
HCV Core91 (mutant/wild)	10/7	16/22	0.38
HCV ISDR (0–1/>2)	12/5	21/17	0.23
α-Fetoprotein (ng/mL)*	45.3 (5–63240)	10 (0.5–909.2)	0.054
IL28B genotype (TT/GG+TG)	8/9	33/5	0.005
Dose of PEGIFN at administration (μg/kg)*	80 (40–120)	80 (50–100)	0.34
Dose of RBV at administration (mg)*	600 (200–1000)	600 (200–800)	0.77
Therapy were completed (yes/no)	9/8	23/15	0.76

HCV, hepatitis C virus; ISDR, interferon sensitivity-determining region; NR, null response; PEGIFN/RBV, pegylated interferon-alpha plus ribavirin combination therapy; SVR, sustained viral response; TR, Transient viral response. *Data are median and (range).

Table 6 Multivariate analysis of factors associated with NR

Factor	Category	Odds rate (95%CI)	P value
IL28B genotype	TT	1	0.006
	GG+TG	7.8 (1.81–34.4)	
AFP	<30	1	0.015
	>30	5.6 (1.40–22.8)	

AFP, α-fetoprotein; NR, null response.

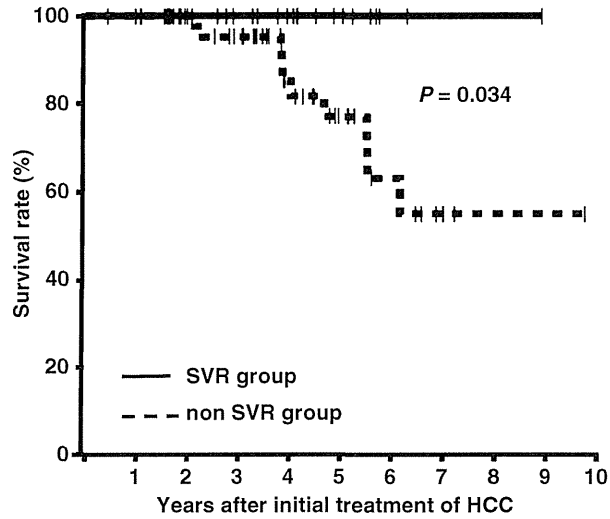

Fig. 3 Comparison of cumulative survival rates in the sustained viral response (SVR) and non-SVR groups. The cumulative survival rate was significantly higher in the SVR group than in the non-SVR group (P = 0.034).

therapy in patients with HCV genotype 2 was reported in two independent studies [28,29]. Further studies of larger sample size are needed to confirm the relationship between IL-28B genotype and the viral response to PEGIFN/RBV after treatment of HCV-related HCC in patients infected with HCV genotype 2.

Our results suggest that IL-28B genotype could be potentially used as a marker for the viral response to PEGIFN/RBV therapy. Furthermore, PEGIFN/RBV therapy should be recommended after curative treatment for HCV-related HCC for patients who are likely to achieve pEVR [those with IL-28B genotype (TT)]. In addition, the SVR rate might improve by IFN therapy and combination therapy HCC and HCV. On the other hand, it might be better to

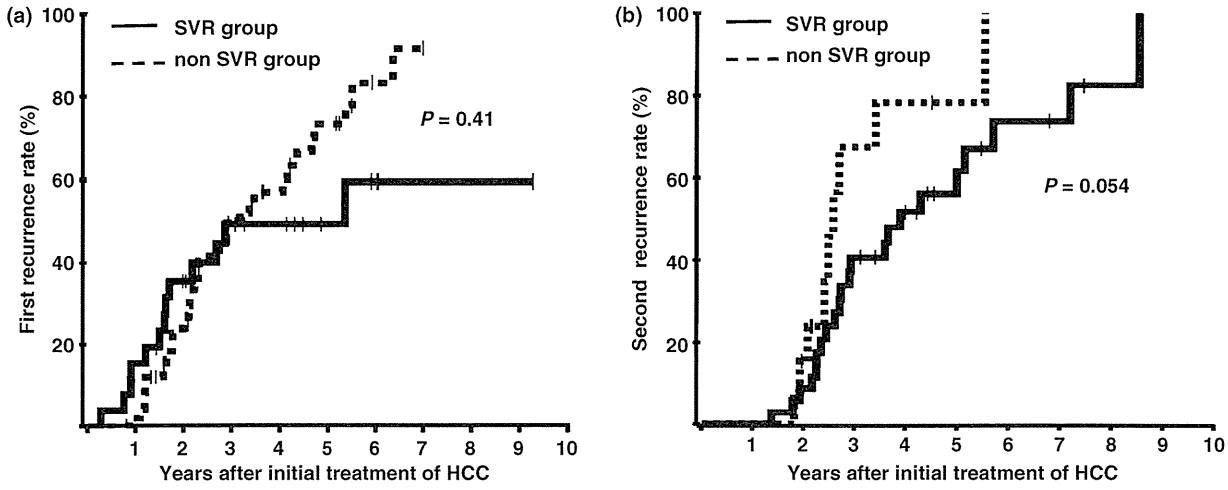

Fig. 4 Cumulative recurrence rates after curative treatment of hepatocellular carcinoma. (a) Rates of first recurrence for the sustained viral response (SVR) and non-SVR groups ($P = 0.41$). (b) Rates of second recurrence for the SVR and non-SVR groups. The second recurrence rate for the SVR group tended to be lower than that for the non-SVR group ($P = 0.054$).

administer low-dose intermittent IFN therapy for patients considered to show NR [those with IL-28B genotype (GG+TG)]. This therapy might result in the improvement of liver function and prevention of HCC recurrence, even if not to obtain SVR.

In conclusion, with regard to the prognosis of patients who undergo curative treatment for HCC, it is desirable to achieve SVR with interferon therapy even after treatment of HCC. IL-28B genotype could potentially be a suitable marker for the response to PEGIFN/RBV combination therapy after treatment of HCV-related HCC.

DISCLOSURES

The authors declare no conflict of interest.

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