

Supplementary Table 1 Extent of liver resection before and after propensity score matching

			Statistical volume	P value
A0 vs. B0	A0	B0		
Prior to PSM	N=876	N=835	$\chi^2=38.657$	<0.001
Extent of liver resection				
1	423 (48.3%)	519(62.2%)		
2	418(47.7%)	278(33.3%)		
3	17 (1.9%)	13 (1.6%)		
4	18 (2.1%)	25 (3.0%)		
Post PSM	N=680	N=680	$\chi^2=4.065$	0.255
Extent of liver resection				
1	373(54.9%)	393 (57.8%)		
2	274(40.3%)	255(37.5%)		
3	16 (2.4%)	9 (1.3%)		
4	17 (2.5%)	23(3.4%)		
A2-2 vs. B2-2	A2-2	B2-2		
Prior to PSM	N=532	N=110	Fisher	0.186
Extent of liver resection				

1	351 (66.0%)	74 (67.3%)		
2	156 (29.3%)	26 (23.6%)		
3	12 (2.3%)	4 (3.6%)		
4	13 (2.4%)	6 (5.5%)		
Post PSM	N=330	N=110	Fisher	0.532
Extent of liver resection				
1	223 (67.6%)	74 (67.3%)		
2	87 (26.4%)	26 (23.6%)		
3	11 (3.3%)	4 (3.6%)		
4	9 (2.7%)	6 (5.5%)		
B2-2 vs. B2-3	B2-2	B2-3		
Prior to PSM	N=110	N=536	Fisher	0.056
Extent of liver resection				
1	74 (67.3%)	389 (72.6%)		
2	26 (23.6%)	129 (24.1%)		
3	4 (3.6%)	7 (1.3%)		
4	6 (5.5%)	11 (2.1%)		
Post PSM	N=110	N=330	Fisher	0.371
Extent of liver resection				

1	74 (67.3%)	215 (65.2%)
2	26 (23.6%)	97 (29.4%)
3	4 (3.6%)	7 (2.1%)
4	6 (5.5%)	11 (3.3%)

A0: prophylaxis group; B0: Non-prophylaxis group; A2-2 means prophylaxis group in which patients were treated with perioperative magnesium isoglycyrrhizinate plus postoperative other liver protectants; B2-2 means non-prophylaxis group in which patients were treated with postoperative magnesium isoglycyrrhizinate plus postoperative other liver protectants.

Supplementary Table 2 Characteristics associated with liver injury on the third day after hepatectomy by the univariable and multivariable logistic regression model ($n = 440$)

Variables	Univariable Logistic Regression		Multivariable Logistic Regression	
	OR (95%CI)	<i>P</i>	OR (95%CI)	<i>P</i>
Age (years, per unit increase)	1.01 (0.99 ~ 1.03)	0.366		
Gender				
Male	1.00 (Reference)		1.00 (Reference)	
Female	0.65 (0.42 ~ 0.99)	0.050	0.63 (0.41 ~ 0.98)	0.042
Hypertension				

No	1.00 (Reference)
Yes	0.92 (0.48 ~ 0.793 1.74)
Diabetes	
No	1.00 (Reference)
Yes	1.16 (0.51 ~ 0.724 2.64)
Hyperlipidemia	
No	1.00 (Reference)
Yes	0.00 (0.00 ~ 0.981 Inf)
Heart disease	
No	1.00 (Reference)
Yes	0.00 (0.00 ~ 0.979 Inf)
Extent of hepatectomy	
Minor	1.00 (Reference)
Major	1.35 (0.87 ~ 0.182 2.09)

Prophylactic isoglycyrrhizate			
No	1.00 (Reference)		1.00 (Reference)
Yes	0.49 (0.29 ~ 0.007 0.82)		0.48 (0.29 ~ 0.006 0.81)

Variables with $P < 0.1$ in the univariable logistic regression were included in the multivariable model. This cohort included a total of matched 330 patients in the prophylaxis group (perioperative magnesium isoglycyrrhizinate plus postoperative other liver protectants) and 110 in the non-prophylaxis group (postoperative magnesium isoglycyrrhizinate plus postoperative other liver protectants).

95%CI, 95% confidence interval; OR, odds ratio.

Supplementary Table 3 Characteristics associated with liver injury on the seventh day after hepatectomy by the univariable and multivariable logistic regression model ($n = 440$)

Variables	Univariable Logistic Regression		Multivariable Logistic Regression	
	OR (95%CI)	P	OR (95%CI)	P
Age (years, per unit increase)	1.00 (0.98 ~ 1.02)	0.879		
Gender				
Male	1.00 (Reference)		1.00 (Reference)	
Female	0.55 (0.31 ~ 0.98)	0.042	0.53 (0.30 ~ 0.95)	0.034

Hypertension	
No	1.00 (Reference)
Yes	0.57 (0.23 ~ 0.219 1.39)
Diabetes	
No	1.00 (Reference)
Yes	1.05 (0.42 ~ 0.911 2.66)
Hyperlipidemia	
No	1.00 (Reference)
Yes	0.00 (0.00 ~ 0.983 Inf)
Heart disease	
No	1.00 (Reference)
Yes	0.00 (0.00 ~ 0.988 Inf)
Extent of hepatectomy	
Minor	1.00 (Reference)

Major	1.13 (0.65 ~ 0.656 1.96)	
Prophylactic isoglycyrrhizate		
No	1.00 (Reference)	1.00 (Reference)
Yes	0.55 (0.32 ~ 0.029 0.94)	0.53 (0.31 ~ 0.023 0.92)

Variables with $P < 0.1$ in the univariable logistic regression were included in the multivariable model. This cohort included a total of matched 330 patients in the prophylaxis group (perioperative magnesium isoglycyrrhizate plus postoperative other liver protectants) and 110 in the non-prophylaxis group (postoperative magnesium isoglycyrrhizate plus postoperative other liver protectants).

95%CI, 95% confidence interval; OR, odds ratio.

Supplementary Table 4 Comparison of liver injuries excluding ALT/AST outliers or patients with incomplete data

	A2-2 (<i>n</i> = 263)	B2-2 (<i>n</i> = 93)	Statistical volume	P value
Postoperative liver injuries	219(83.3%)	80(86.0%)	$\chi^2=0.387$	0.534
Liver injuries at POD 3	155(58.9%)	70(75.3%)	$\chi^2=7.881$	0.005
Liver injuries at POD 7	45(17.1%)	25(26.9%)	$\chi^2=4.153$	0.042
Liver injuries at final visit	30(11.4%)	10(10.8%)	$\chi^2=0.029$	0.864

Abbreviations: POD: postoperative day.

Supplementary Table 5 Comparison of liver injuries in patients with major and minor resection

	A2-2	B2-2	Statistical volume	P value
Major resection	N=175	N=61		
Postoperative liver injuries	148(84.6%)	53(86.9%)	$\chi^2=0.192$	0.661
Liver injuries at POD 3	107(61.1%)	47(77.1%)	$\chi^2=5.048$	0.025
Liver injuries at POD 7	35(20.0%)	17(27.9%)	$\chi^2=1.630$	0.202
Liver injuries at final visit	23(13.1%)	7(11.5%)	$\chi^2=0.113$	0.736
Minor resection	A2-2 (n = 88)	B2-2 (n = 32)		
Postoperative liver injuries	71(80.7%)	27(84.4%)	$\chi^2=0.214$	0.644
Liver injuries at POD 3	48(54.6%)	23(71.9%)	$\chi^2=2.917$	0.088
Liver injuries at POD 7	10(11.4%)	8(25.0%)	Fisher	0.083
Liver injuries at final visit	7(8.0%)	3(9.4%)	Fisher	0.725

POD: postoperative day.

Supplementary Table 6 Characteristics associated with post hepatectomy liver injury by the univariable and multivariable logistic regression model ($n = 1360$)

Variables	Univariable Logistic Regression		Multivariable Logistic Regression	
	OR (95%CI)	<i>P</i>	OR (95%CI)	<i>P</i>
Age (years, per unit increase)	1.01 (1.01 ~ 1.02)	0.021	1.01 (1.00 ~ 1.02)	0.054
Gender				
Male	1.00 (Reference)		1.00 (Reference)	
Female	0.58 (0.45 ~ 0.75)	<.001	0.79 (0.58 ~ 1.08)	0.137
Hypertension				
No	1.00 (Reference)			
Yes	0.87 (0.61 ~ 1.23)	0.421		
Diabetes				
No	1.00 (Reference)			
Yes	0.79 (0.51 ~ 1.23)	0.294		
Hyperlipidemia				

No	1.00 (Reference)	
Yes	0.55 (0.23 ~ 0.173 1.30)	
Heart disease		
No	1.00 (Reference)	
Yes	0.39 (0.09 ~ 0.221 1.76)	
Extent of hepatectomy		
Minor	1.00 (Reference)	1.00 (Reference)
Major	2.06 (1.59 ~ <.001 2.66)	1.78 (1.32 ~ <.001 2.41)
Prophylactic isoglycyrrhizate		
No	1.00 (Reference)	1.00 (Reference)
Yes	0.75 (0.58 ~ 0.028 0.97)	0.76 (0.58 ~ 0.034 0.98)

Variables with $P < 0.1$ in the univariable logistic regression were included in the multivariable model. This cohort included a total of 680 patients in the preoperative magnesium isoglycyrrhizate prophylaxis group and matched 680 patients in the non-prophylaxis group.

95%CI, 95% confidence interval; OR, odds ratio.