

## **Methods: Statistical analysis**

We compared the primary outcome using the chi-square test or Fisher's exact test for categorical variables and the Student's t test or the Mann-Whitney U test for continuous variables. We selected a number of variables from among those which had a p-value of  $<0.05$  in univariable analysis for multivariable logistic regression analysis after considering multicollinearity. Continuous variables were converted into dichotomous variables following a previous study, and a receiver-operating characteristic (ROC) curve analysis was done. We calculated the odds ratio (OR) and 95% confidence interval (CI) of each variable and selected a variable which was significantly associated with the primary outcome. Next, we compared the primary and secondary outcomes among the four groups (hemoglobin  $<70\text{g/L}$ : patients with the selected variable; hemoglobin  $<70\text{g/L}$ : patients without the selected variable; hemoglobin  $\geq 70\text{g/L}$ : patients with the selected variable; and hemoglobin  $\geq 70\text{g/L}$ : patients without the selected variable). The ORs and 95% CIs of the four groups were calculated by logistic regression analysis.

**Results: Endoscopic findings in patients without high risk stigmata requiring only a blood transfusion (hemoglobin <70 g/L)**

The endoscopic findings of 154 patients who needed only a blood transfusion (hemoglobin <70 g/L) and had no high risk stigmata are shown below. Of 67 patients who had an esophageal or peptic ulcer, 54 patients had lesions without signs of recent hemorrhage or a fibrin-covered clean ulcer base (III in the Forrest classification), seven patients had flat pigmented hematin on the ulcer base (IIc in the Forrest classification), and six patients had an adherent clot (IIb in the Forrest classification). Of eight patients who had esophageal or gastric varices, four patients had no red color (RC) sign, two patients had a RC (+) sign without recent bleeding, and two patients had a RC (2+) sign without recent bleeding. Of 18 patients who had neoplasia, six patients had no bleeding signs and 12 patients had slightly oozing bleeding, which resolved spontaneously. Of two patients who had Malloy-Weiss syndrome, one patient had no bleeding signs and one patient had slightly oozing bleeding, which resolved spontaneously. Of 16 patients with erosion, 12 patients had no bleeding signs and four patients had slightly oozing bleeding which resolved spontaneously. In addition, a small number of patients had duodenal diverticular bleeding, telangiectasia, mucosa-associated lymphoid tissue lymphoma, and small intestine bleeding.

Supplementary Table 1. The demographic characteristics, treatments, and outcomes of patients who needed a blood transfusion (hemoglobin<70g/L) and all patients.

Variable	Patients with hemoglobin <70 g/L (n=311)	All patients (n=1307)
Age, mean(SD),y	72.0(13.8)	68.5(15.2)
Men, No. (%)	177(56.9)	735(67.3)
Syncope, No. (%)	32(10.3)	104(9.5)
Melena (tarry stool), No. (%)	197(63.3)	624(57.1)
Daily use of PPI during one week before examination, No. (%)	49(15.8)	117(15.1)
Use of NSAID, No. (%)	62(19.9)	167(15.3)
Use of anti-platelets, No. (%)	41(13.2)	172(15.8)
Past history of gastroduodenal ulcer, No. (%)	48(15.4)	201(18.4)
Past history of varix, No. (%)	14(4.5)	76(7.0)
Hepatic disease, No. (%)	38(12.2)	144(13.2)
Cardiac failure, No. (%)	16(5.1)	57(5.2)
Dialysis, No. (%)	20(6.4)	59(5.4)
HR, mean(SD), beats/min	91.8(20.2)	93.1(20.6)
SBP (SD),mm Hg	109(25.7)	112(27)
Shock index(HR/SBP), mean(SD)	0.91(0.36)	0.89(0.34)
Hemoglobin, mean(SD),g/L	56.4(10.0)	91.2(28.5)
Albumin, mean(SD),g/L	26.6(5.7)	31.2(7.3)
Urea [BUN], mean (SD), mmol/L (mg/dL)	16.3[45.7] (10.7[30.1])	14.1[39.3] (9.6[26.3])
Cr, mean (SD), $\mu$ mol/L [mg/dL]	133[1.50] (145[1.64])	122[1.37] (142[1.59])
Urea /Cr [BUN /Cr], mean (SD)	159[39.5] (88.6[21.9])	154[38.2] (90.6[22.3])
PT-INR, mean (SD)	1.31(0.71)	1.26(0.99)
High risk stigmata, No. (%)	152(49.2)	531(48.6)
<b>Treatment</b>		
Blood transfusion, No. (%)	284(91.3)	620(56.8)
Endoscopic treatment, No. (%)	150(48.5)	531(48.6)
IVR, No. (%)	6(1.9)	15(1.1)
Surgery, No. (%)	5(1.6)	14(1.1)

SD=standard deviation; PPI=proton pump inhibitor; NSAID=non-steroidal anti-inflammatory drug; HR=heart rate; SBP=systolic blood pressure; BUN=blood urea nitrogen; Cr=creatinine; PT-INR= prothrombin time-international normalized ratio

Supplementary Table 1. The demographic characteristics, treatments, and outcomes of patients who needed a blood transfusion (hemoglobin<70g/L) and all patients.

(Continued)

	Patients with hemoglobin <70 g/L (n=311)	All patients (n=1307)
Outcome		
Death within 28 days, No. (%)	13(4.2)	36(2.8)
Death due to UGIB, No. (%)	7(2.3)	18(1.4)
Rebleeding, No. (%)	21(6.8)	69(5.3)

SD=standard deviation; PPI=proton pump inhibitor; NSAID=non-steroidal anti-inflammatory drug; HR=heart rate; SBP=systolic blood pressure; BUN=blood urea nitrogen; Cr=creatinine; PT-INR= prothrombin time-international normalized ratio

Supplementary Table 2: Comparison of dead patients and living patients in the patient group requiring a blood transfusion (hemoglobin<70g/L)

Variable	Dead(n=13)	Alive (n=298)	Univariate p-value
Age, mean(SD),y	72.4(12.1)	72.0(13.9)	0.91
Men, No. (%)	10(76.9)	167(56.0)	0.16
Syncope, No. (%)	2(15.4)	30(10.1)	0.63
Melena (tarry stool), No. (%)	8(61.5)	189(63.4)	1.00
Daily use of PPI during one week before examination, No. (%)	1(7.7)	70(16.1)	0.70
Use of NSAID, No. (%)	2(15.4)	60(20.1)	1.00
Use of anti-platelets, No. (%)	0(0)	41(13.8)	0.23
Use of warfarin, No. (%)	0(0)	17(5.7)	1.00
Past history of gastroduodenal ulcer, No. (%)	2(15.4)	46(15.4)	1.00
Past history of varix, No. (%)	1 (7.7)	13(4.4)	0.46
Hepatic disease, No. (%)	2 (15.4)	36(12.1)	0.66
Cardiac failure, No. (%)	0(0)	16(5.4)	1.00
Dialysis, No. (%)	1(7.7)	19(6.4)	0.59
HR, mean (SD), beats/min	93.2(18.5)	91.7(20.3)	0.79
SBP (SD), mm Hg	88.9(42.4)	109(24.5)	0.005
Shock index (HR/SBP), mean (SD)	1.31(0.67)	0.89(0.33)	<0.001
Hemoglobin, mean (SD), g/L	50.9(13.8)	56.7(9.8)	0.04
Albumin, mean (SD), g/L	23.6(6.7)	26.7(5.6)	0.05
Urea [BUN], mean (SD), mmol/L (mg/dL)	14.8(8.83) [40.8(20.8)]	12.0(8.59) [45.9(30.4)]	0.55
Cr, mean (SD), μmol/L [mg/dL]	94.1(87.5) [1.7(1.9)]	119(139) [1.5(1.6)]	0.67
Urea /Cr [BUN /Cr], mean (SD)	212(103) [31.8(15.4)]	152(85.6) [39.8(22.1)]	0.20
PT-INR, mean (SD)	1.64(0.74)	1.29(0.71)	0.09
Charlson index, mean (SD)	6.2(2.6)	5.7(2.6)	0.44
High risk stigmata	12(92.3)	145(48.7)	0.004

SD=standard deviation; PPI=proton pump inhibitor; NSAID=non-steroid anti-inflammatory drugs; HR=heart rate; SBP=systolic blood pressure; BUN=blood urea nitrogen; Cr=creatinine; PT-INR=prothrombin time-international normalized ratio