

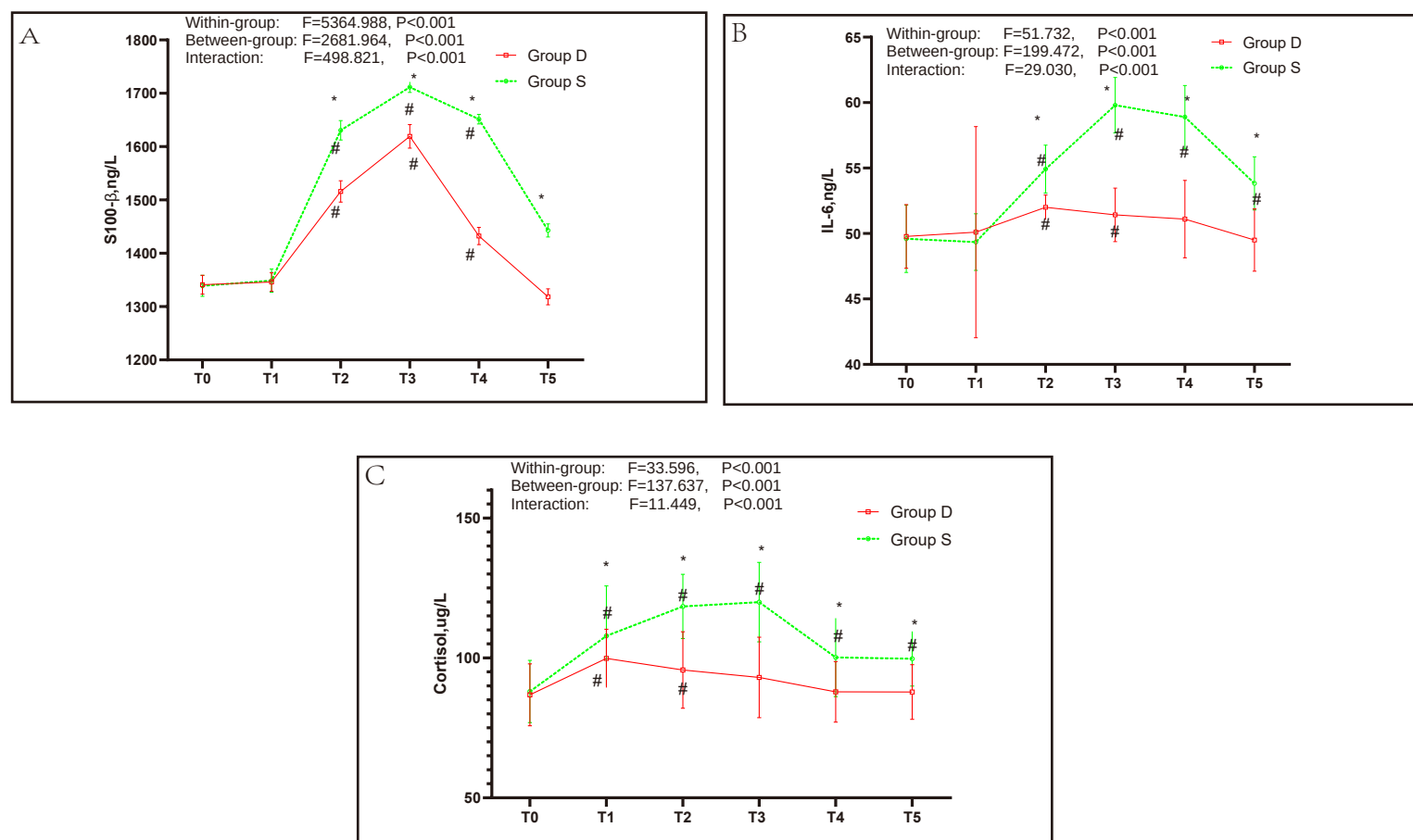


Figure S1 Serum levels of S100-β, IL-6, and cortisol. The Figure display the serum levels of S100-b (A), IL-6 (B), and cortisol (C) at six perioperative time points (T0, T1, T2, T3, T4, T5) for Group D (Red) and Group S (Green). Circular or square markers denote the mean values, with error bars representing the standard deviation. T0: Prior to anesthesia induction; T1: Endoscope insertion; T2: 10 minutes after the start of surgery; T3: 30 minutes after the start of surgery; T4: 1 hour post-operation; T5: 1 day postoperation. * denotes $p < 0.05$ between the two groups at the same time point, # denotes $p < 0.05$ compared to T0 within the same group.

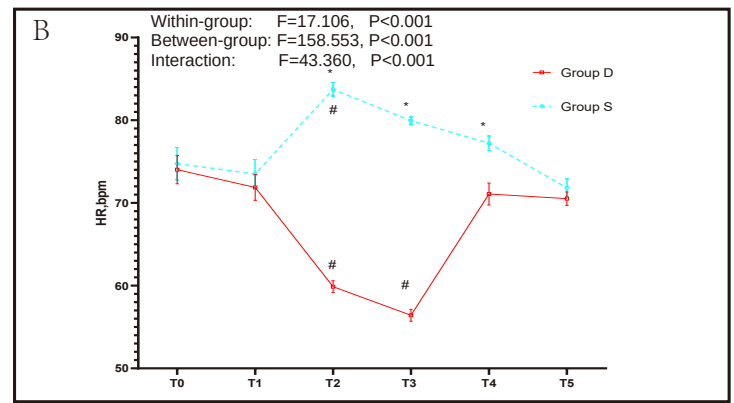
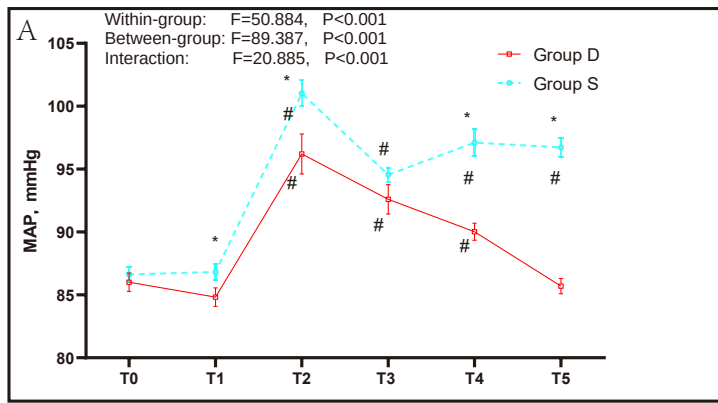


Figure S2 Comparison of (A) Mean Arterial Pressure (MAP), (B) Heart Rate (HR) at six perioperative time points between groups D (**Red**) and S (**Blue**). Circle or square markers indicate mean values, and error bars indicate standard error. T0: Prior to anesthesia induction; T1: Endoscope insertion; T2: 10 minutes after the start of surgery; T3: 30 minutes after the start of surgery; T4: 1 hour post-operation; T5: 1 day post-operation. * denotes $p<0.05$ between the two groups at the same time point. #denotes $p<0.05$ compared with T0 within the same group.

Table S1 Patient and healthy volunteer demographics and surgical parameters

Variables	Surgical Patients(n =80)	Health Volunteers (n = 20)	P.value
Age,years	68.1 ± 2.0	67.2 ± 1.7	0.096
BMI,Kg/m2	23.9 ± 1.8	24.2 ± 2.1	0.599
Sex, n(%)			0.617
Male	39 (48.8)	11 (55)	
Female	41 (51.2)	9 (45)	
ASA physical status, n (%)			0.303
II	69 (86.2)	15 (75)	
III	11 (13.8)	5 (25)	
Level of education, n (%)			0.664
Elementary	28 (35)	6 (30)	
Junior	43 (53.8)	11 (55)	
College and beyond	6 (7.5)	3(15)	
Hypertension, n (%)	24 (30)	9 (45)	0.202
Electrocaediogram:Changes in the ST segment, n (%)	22 (27.5)	6 (30)	0.824
Preoperative MMSE score,points	28.0 ± 1.5	27.5 ± 1.7	0.192

Note:Data are presented as Mean ± SD or Number (Percentage).

Abbreviations: BMI, Body Mass Index; ASA, American Society of Anesthesiologists; SD, Standard deviation; MMSE, Mini-Mental State Examination.