

The association of phase angle with in-hospital complication after laparoscopic living-donor hepatectomy

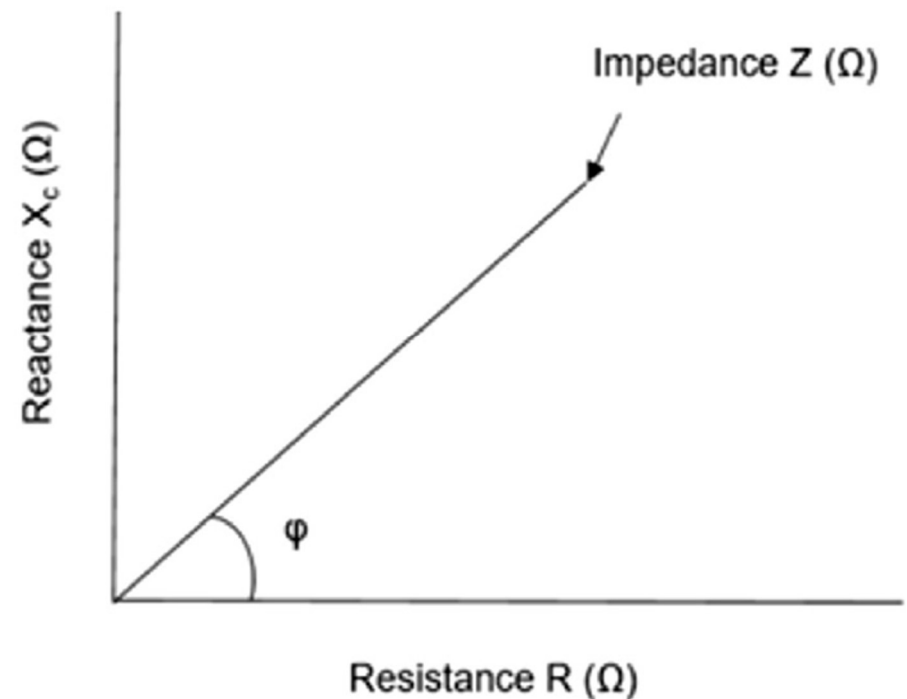
Gaabsoo Kim

Department of Anesthesiology and Pain medicine

Samsung Medical Center

Introduction

- Phase angle (PA)
 - Parameter from the bioelectrical impedance analysis (BIA)
 - It reflects hydration status, muscle mass, and strength, health status, frailty, and nutritional status
 - Potential biomarker of surgical outcome



Methods

- May 2023 and October 2023.
- Forty-four adult donors with an American Society of Anesthesiologists Physical Status classification I–II who underwent elective laparoscopic hepatectomy
- PA assessment before surgery (PApre) and one day after surgery (PApost)
- The primary outcome was the association of PA with a composite of in-hospital complications after donor hepatectomy, including surgical complications, postoperative pulmonary complications, ileus, and acute kidney injury

Results

- The median age of participants was 35 years [27, 49], with 21 (48%) patients being male.
- Nearly half of the patients experienced one or more postoperative complications during their hospital stay
- No significant risk factors were identified to predict postoperative complications.

Table 2 Univariate logistic regression

	Odds ratio (95% CI)	p value
<i>Phase angle, BLA</i>		
PA _{pre}	0.802 (0.373 – 1.721)	0.570
PA _{post}	0.697 (0.359 – 1.354)	0.287
<i>ECWR, BLA (per 0.01 increase)</i>		
ECWR _{pre}	0.997 (0.450 – 2.209)	0.995
ECWR _{post}	1.258 (0.707 – 2.240)	0.435
<i>Intraoperative variables</i>		
Duration of surgery	1.190 (0.521 – 2.720)	0.679
Duration of pneumoperitoneum	1.252 (0.525 – 2.989)	0.612
Duration of Pringle maneuver	0.976 (0.942 – 1.010)	0.159
Crystalloid	1.005 (0.998 – 1.011)	0.145
Estimated blood loss	1.012 (1.001 – 1.024)	0.034
<i>Others</i>		
Age	1.009 (0.960 – 1.059)	0.735
BMI	1.105 (0.884 – 1.382)	0.380
Haemoglobin	0.820 (0.533 – 1.264)	0.369
Albumin	1.041 (0.107 – 10.139)	0.973
Diaphragmatic thickness fraction	0.417 (0.089 – 1.950)	0.266

Conclusion

- Preoperative PA obtained from BIA measurements did not predict in-hospital complications after donor hepatectomy.