

**PHASE ANGLE (PA) IS A STRONGER PREDICTOR OF HOSPITAL OUTCOME THAN SUBJECTIVE GLOBAL ASSESSMENT (SGA) - RESULTS FROM THE PROSPECTIVE DESSAU MALNUTRITION STUDY**

M. Plauth<sup>1,\*</sup>, I. Sulz<sup>2</sup>, M. Viertel<sup>1</sup>, M. Hiesmayr<sup>2</sup>, P. Bauer<sup>2</sup>

<sup>1</sup>Internal Medicine, Städtisches Klinikum Dessau, Dessau-Roßlau, Germany, <sup>2</sup>CeMSIIS, Medizinische Universität Wien, Wien, Austria

**Rationale:** To investigate bioimpedance (BIA) derived PA against SGA using hospital outcome as endpoint in a prospectively documented cohort of consecutive adult patients of a community hospital.

**Methods:** Between May 2019 and March 2020 14150 of 16943 patients were screened for malnutrition risk using NRS-2002. Among 2695 NRS≥3 patients 1507 gave informed consent and their data (age, gender, ICD-10 category, BIA, SGA, PANDORA items, modified Glasgow Prognostic Score (mGPS)) were prospectively entered into the electronic patient record. Length of hospital stay for patients with regular discharge was analyzed using competing risk outcome models. Results are presented as hazard ratios with 95% confidence intervals.

**Results:** In a model including influence factors age, gender, weight loss, diagnoses and PANDORA items in SGA B&C patients the chance for a timely and regular discharge was reduced by 21% as compared to SGA A patients (model A). The association of SGA and outcome was abrogated when PA was added (model B). PA increased the chance of a timely and regular discharge by 18% for each degree (see table). Even when mGPS as a measure of an inflammatory state was added to model B PA remained associated with a 10% increased chance for a timely and regular discharge by each degree (model C). mGPS was associated with a decrease in the chance for discharge 0.82 (0.68-0.98) (0 vs 1) p=0.026 and 0.55 (0.40-0.75) (0 vs 2) p<0.0005.

	Model A: SGA	Model B: SGA and PA	Model C: SGA, PA and mGPS
SGA A vs B&C	0.79 (0.72-0.87) p<0.0001	0.92 (0.81-1.06)	1.02 (0.90-1.16)
PA (per 1 degree)		1.18 (1.09-1.29) p<0.0001	1.10 (1.03-1.18) p<0.005

**Conclusion:** In patients at risk for malnutrition in terms of NRS≥3 PA was a stronger predictor of LOS than SGA and remained so even when inflammatory status in terms of mGPS as a strong prognostic variable was included in the model. Unlike SGA, PA offers the advantage of providing a numerical value as an objective measure.

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