

RELATIONSHIP BETWEEN DEPRESSION AND MALNUTRITION-INFLAMMATION STATUS IN PATIENTS ON MAINTENANCE HEMODIALYSIS – A MULTICENTRIC STUDY

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INTRODUCTION: Malnutrition, inflammation and depression are common findings in HD patients. Malnutrition caused by uremia in HD patients predisposes them to inflammatory status, while depression is associated with poor oral intake, increased cytokine levels and inflammatory response.

AIM: The aim of this study was to assess the prevalence of depression and its relationship with malnutrition-inflammation status according to malnutrition-inflammation scores (MIS) in HD patients.

Study population	
307 patients / 5 HD centers	
Males	58.9%
Employed	4.3%
Married	61.9%
Smokers	20.8%
Diabetes	14.9%
Age	20 – 85 yrs
Time od HD	6 – 324 mon
spKt/V	1.29 ± 0.29
BMI	24.52 ± 4.79

Lab Results	
Variable	Mean ± SD
Hemoglobine (g/l)	99.73 ± 15.84
Calcium (mmol/l)	2.25 ± 0.19
Phosphate (mmol/l)	1.57 ± 0.47
iPTH (pg/ml)	254.14 ± 204.86
Ferritin	508.00 ± 433.84
Albumin	143.14 ± 167.17
CRP	6.91 ± 12.21

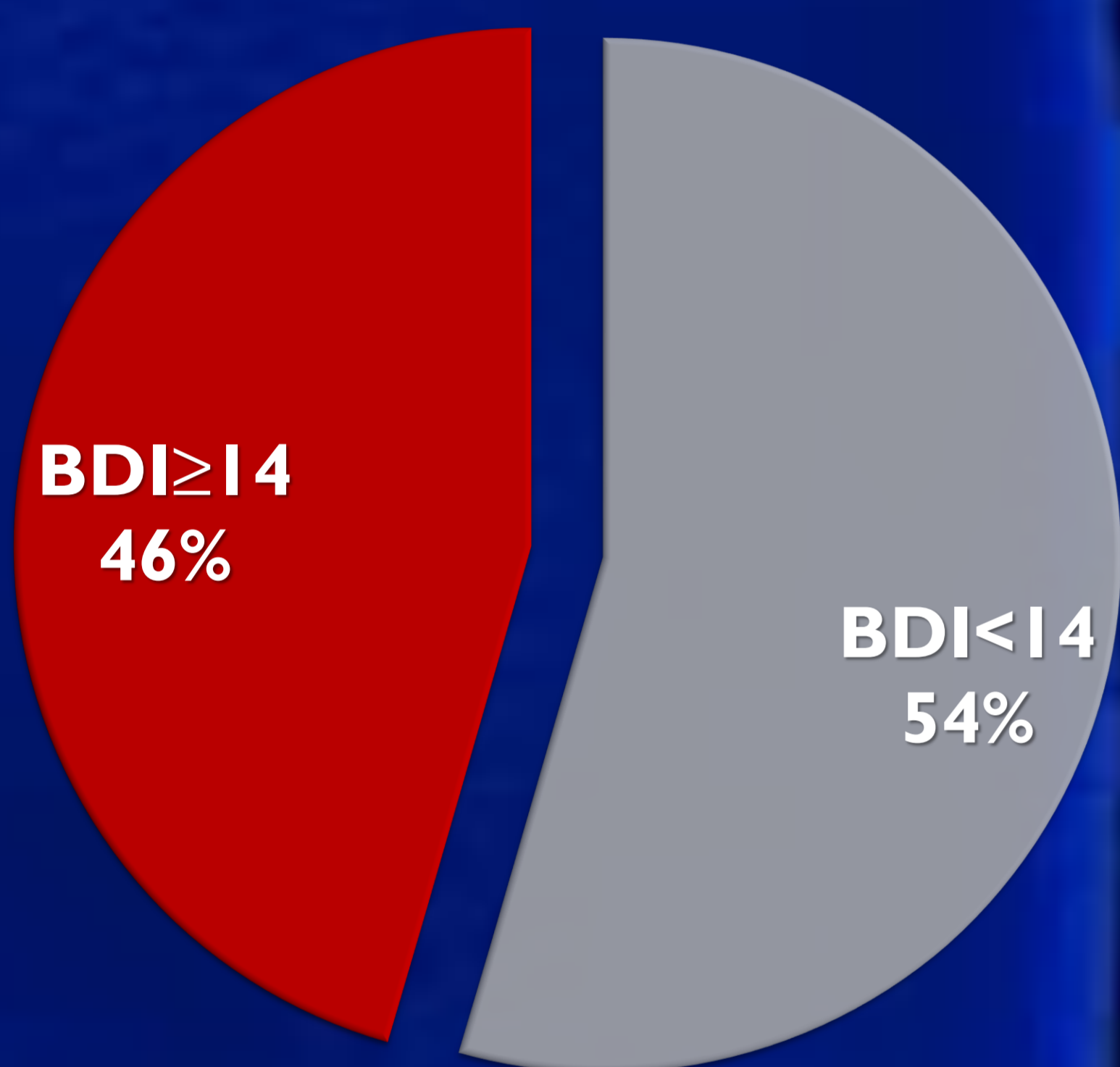
Beck Depression Inventory

21 items	Grading 0 - 3
Score range 0 - 63	First 15 items = CDI
5-10 minutes	Version II > 65 years
BDI ≥ 14	

Malnutrition Inflammation Score

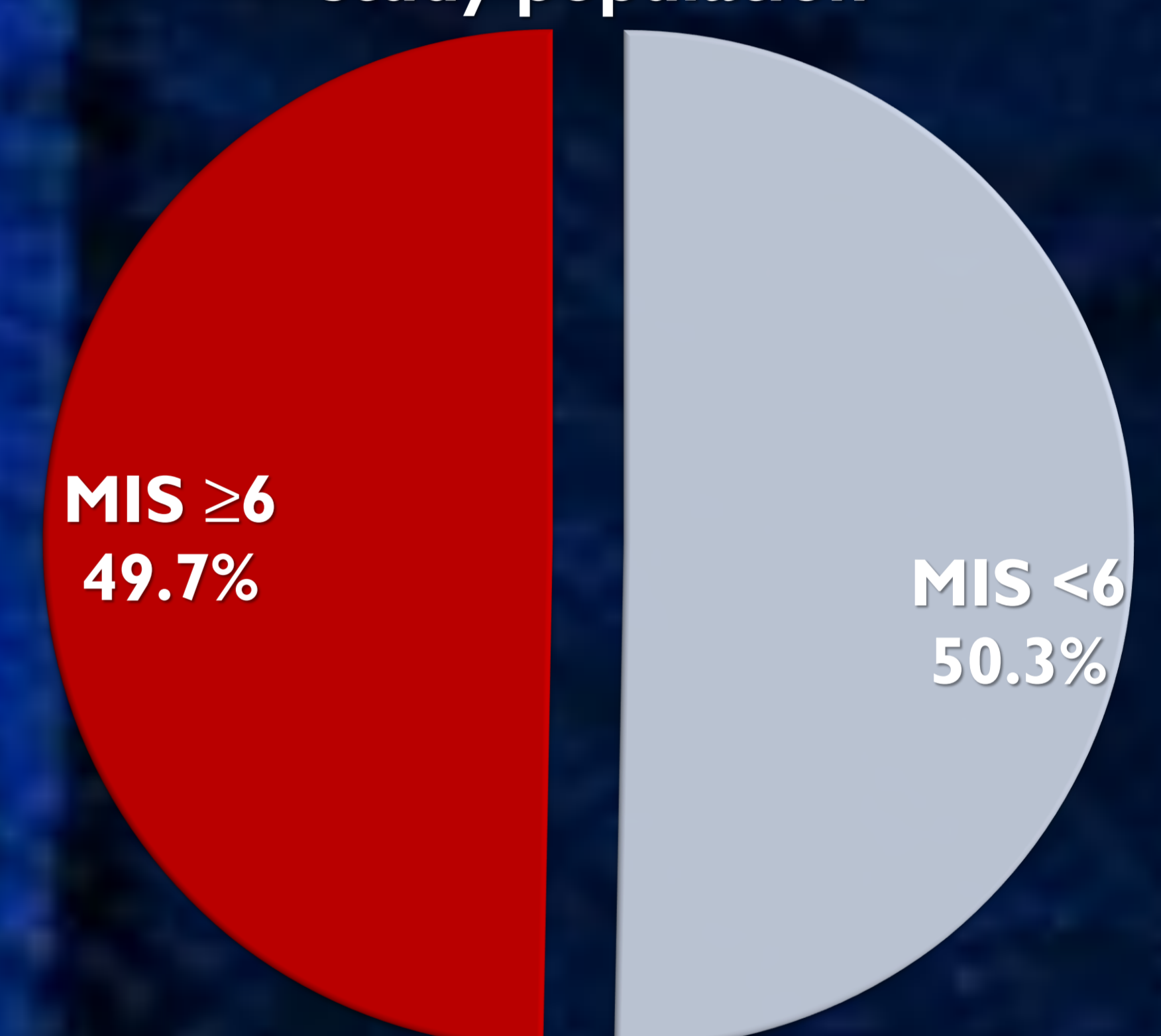
Subjective Global Assessment (7 komp)	Body Mass Index (BMI)
sAlbumin	Total Iron Binding Capacity (TIBC)
Score range 0 – 30 MIS ≥ 6	

Depression in study population



Variables assessed		
Personal	Comorbidities	Dialysis-related
Sex	Diabetes	Time on HD
Age	HBV	Weekly HD (h)
Marital status	HCV	Kt/V
Employment	Cardiovascular	HD shift
Smoking		HD type
BMI	Laboratory	Vascular access

Malnutrition-inflammation in study population



Correlation MIS - BDI: r=0.162, p<0.01

MIS and laboratory variables

	MIS < 6	MIS ≥ 6	p
Hemoglobin	103.76 ± 15.66	98.98 ± 16.43	NS
Calcium	2.22 ± 0.20	2.32 ± 0.18	<0.01
Phosphate	1.67 ± 0.52	1.56 ± 0.49	NS
iPTH	176.09 ± 165.56	363.37 ± 250.03	NS
Ferritin	406.36 ± 330.03	610.11 ± 414.80	<0.05
CRP	5.57 ± 4.92	7.42 ± 10.17	NS
Albumin	37.27 ± 3.95	36.44 ± 5.98	NS
BMI	27.16 ± 4.38	23.24 ± 3.58	<0.01

MIS: demographics, comorbidities & BDI (only significant differences shown)

Variable	Category	MIS	p
Smoking	Yes	7.84 ± 4.07	0.016
	No	6.31 ± 3.41	
Diabetes	Yes	8.77 ± 4.08	<0.01
	No	6.27 ± 3.40	
HD type	Low flux	7.28 ± 3.96	0.05
	High flux	6.35 ± 3.06	
BDI	<14	6.42 ± 4.03	0.05
	14+	7.31 ± 3.84	

CONCLUSIONS: Both patients with depressive symptoms and those with malnutrition are highly prevalent on maintenance HD. Depression is closely related to malnutrition-inflammation syndrome in HD patients. Further studies are needed to examine the extent to which regulating malnutrition and inflammation and treating depression might improve quality of life on HD.

References

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