HEIDELBERG UNIVERSITY HOSPITAL

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DIABETES & ADIPOSITAS ZENTRUM

Weight Years - Establishment of a New Parameter for the Prognosis of Obesity-associated Diseases.

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I have no potential conflict of interest to report.

The Background

Limited and conflicting data on the impact of

the duration, onset and severity of obesity

on the likelihood of developing obesity-associated diseases.

The Aim

To evaluate a correlation between the duration and severity of obesity and obesity-associated diseases by calculating a new variable called **Weight Years (WY).**

Material and Methods

Retrospective analysis

Patients with BMI ≥30kg/m^2
No previous MBS

Demographic/social data
Comorbidities
Medication
Smoking status etc.

$$WY = \frac{years\ of\ obesity\ x\ (BMI - 25)}{10}$$

Study Population

♂ 625 ♀ 1310 Age: 42 ± 12

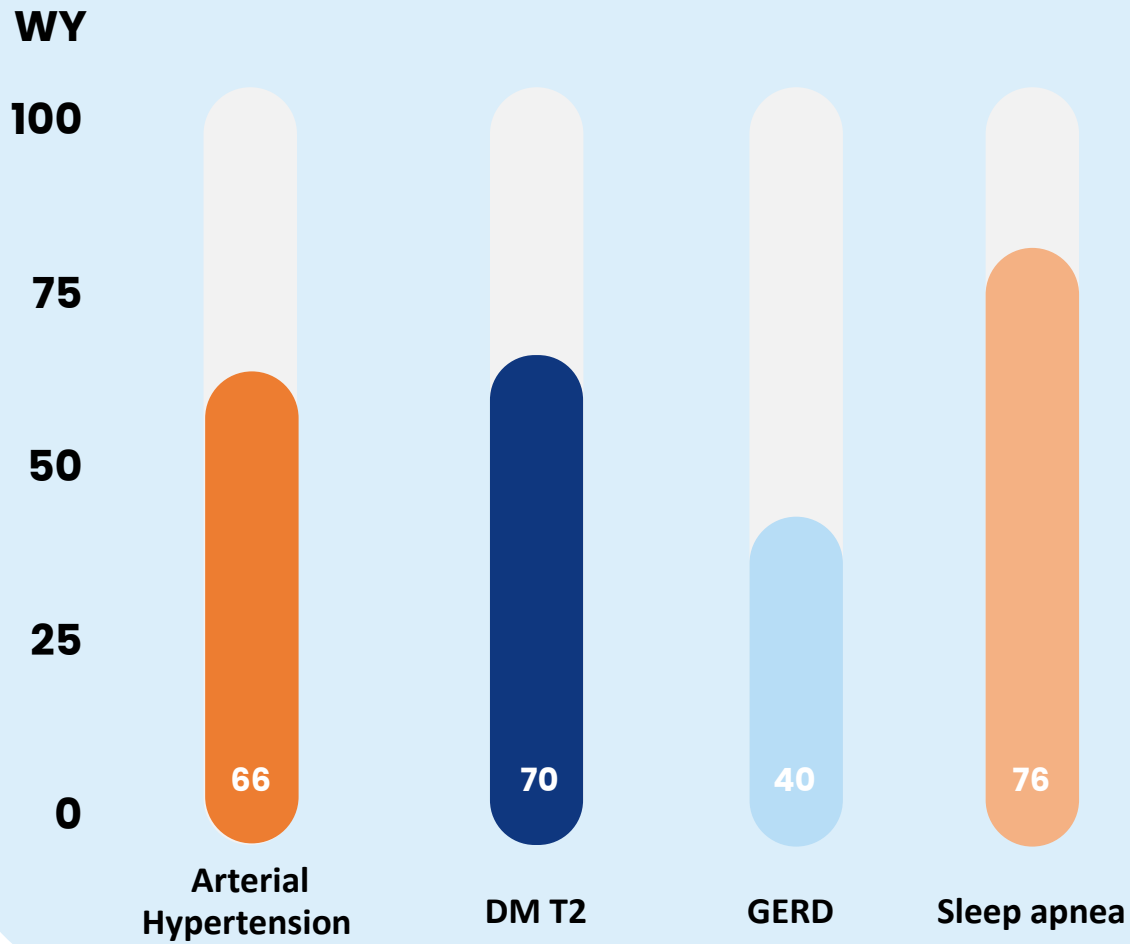
BMI: 48 ± 8 kg/m^2

Comorbidities: 4 ± 2

WY 66 ± 41

Findings

Risk of Disease



Comorbidities	WY w/ CM (Mean ± SD)	WY w/o CM (Mean ± SD)	p-value	OR	95% CI	p-value	DP (WY)	AUC	p-value	Cut-off (WY)	Youden Index
AHT	76.99 ±- 43.08	51.54 ± 31.11	<0.0001	1.019	1.016 – 1.022	<0.0001	36.83	0.688	<0.0001	66	0.289
DMT2	76.94 ±- 44.12	60.43 ± 37.09	<0.0001	1.010	1.008 – 1.012	<0.0001	69.66	0.616	<0.0001	70	0.196
GERD	74.92 ±- 42.22	62.16 ± 38.98	<0.0001	1.008	1.005 – 1.010	<0.0001	86.99	0.598	<0.0001	39	0.167
OSAS	77.79 ±- 46.11	61.88 ± 37.22	<0.0001	1.009	1.007 – 1.012	<0.0001	77.36	0.604	<0.0001	74	0.172

WY, weight year; CM, comorbidity; OR, Odds ratio; CI, confidence interval; DP, doubling probability; AUC, area under curve; AHT, arterial hypertension; DMT2, diabetes mellitus type 2; GERD, gastroesophageal reflux disease; OSAS, sleep apnea; CHD, coronary heart disease;

Findings

Doubling Probability

38 WY Arterial hypertension

70 WY Diabetes mellitus Type 2

77 WY Sleep apnea

87 WY GERD

Comorbidities	DP (WY)	AUC	p-value	Cut-off (WY)	Youden Index
AHT	36.83	0.688	<0.0001	66	0.289
DMT2	69.66	0.616	<0.0001	70	0.196
GERD	86.99	0.598	<0.0001	39	0.167
OSAS	77.36	0.604	<0.0001	74	0.172

Conclusions

WY positively correlates with the risk of developing some obesity-associated comorbidities.

Future directions:

predicting not only the risk of obesity-associated comorbidity, but also determining the optimal time of bariatric surgery?