

Effects of depressive symptoms on clinical outcomes, inflammatory markers and quality of life after a significant weight loss in a bariatric surgery sample.

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Background and aims

Obesity is linked to a low-grade and chronic systemic inflammation that improves after a significant weight loss. In the same way, depressive disorder has been suggested to be associated with systemic inflammation up regulation. We aimed to explore whether, after a significant weight loss, the presence of depressive symptoms was associated with differences in terms of inflammatory markers and quality of life compared with individuals without significant depressive symptoms.

Material and methods

Sixty patients (78.3%♀, age 46.35±9.89 and months since BS 46.28±18.1) who underwent BS, with a minimum follow up of 18 months, were evaluated cross-sectionally. Initial and current BMI, comorbidity, sociodemographic and biochemical parameters were recorded. For the screening of depression, the Beck Depression Inventory (BDI) was administered. A score in BDI ≥16 was considered as positive for significant depression.

Results

	Screening negative for depression (n= 50)	Screening positive for depression (n=10)	p
Gender (male/female) (n)	12/38	1/9	NS
Age (years)	45.5±9.4	50.7±11.5	NS
Time since BS (months)	45.1±18.9	53.4±14.1	NS
Initial BMI (kg/m ²)	48.4±7.6	48.1±7.2	NS
Current BMI (kg/m ²)	33.5±5.4	34.6±9.5	NS
Desired weight (kg)	79.51±12.2	62.5±22.91	p=0.001
Weight regain (%)	32	70	p=0.024
Total kilocalories per day	1350±322	1273±311	NS
% daily carbohydrates	42.7±9.2	39.3±14.5	NS
% daily lipids	37.5±7.5	42.8±10.8	NS
% daily proteins	19.2±17.3	17.3±4.2	NS
Alcohol intake (%)	0.42±1.4	0.41±2.6	NS
Dumping syndrome (%)	20	40	NS
Steatorrhea (%)	6	30	p= 0.021
Minutes used for MAIN meals intake	19.5±11.7	13±7.9	NS
Exercise (%)	38	70	p=0.038

	Screening negative for depression (n= 50)	Screening positive for depression (n= 10)	p
Platelets (x10 ⁹ /L)	231,700±46,794	319,300±15,212	p= 0.001
Eythrocyte sedimentation rate (mm)	16.64±10.29	24.7±11.28	p=0.03
Fibrinogen (mg/dL)	406±66	486±107	p=0.003
Ultrasensitive CRP (mg/dl)	0.24±0.26	0.96±1.84	p=0.008
Ferritin (ng/ml)	33.74±44.12	105.5±179.7	p=0.014
Plasma glucose (mg/dl)	89±17.4	111.6±43.3	p=0.007
HbA1c (%)	5.6±0.9	5.7±0.9	NS
Prealbumin(mg/dl)	22.5±4.9	18.2±4.7	NS
Total cholesterol (mg/dl)	172±30.2	183±41.3	NS
LDL-cholesterol (mg/dl)	95.7±26.6	105.3±35.5	NS
HDL-cholesterol (mg/dl)	57±12.5	54.2±17.5	NS
Triglycerides (mg/dl)	99.5±48.5	117.6±37.2	NS
Calcium (mg/dl)	9.1±0.45	9.1±0.35	NS
25ODVitD (ng/ml)	25.74±9.5	17.76±12	p=0.024
Iron (ug/dl)	73.9±31.8	73.6±49.7	NS
Folate (ng/ml)	32.5±76.8	11.5±8.1	NS
Cianocobalamin(pg/ml)	292.8±187.4	280.6±130.9	NS
Leptin (ng/ml)	38.9±21	47.2±32.7	NS
TSH (mcU/mL)	2.4±1.4	2.5±1.6	NS
Cortisol (mcg/dL)	17±6.3	16.7±4.8	NS

	Screening negative for depression (n= 50)	Screening positive for depression (n= 10)	p
Pre-surgical psychiatric comorbidities (%)	54	90	p=0.034
% subjects with non adherence to protocol	25	70	p= 0.009
General Health	73.23±20.1	45.9±23.86	p<0.0001
Physical functioning	91.44±10.9	70.5±30.4	p<0.0001
Role-physical	88.7±28.59	61±44.9	p=0.014
Role-emotional	85.83±24.19	38.33±45.85	p<0.0001
Social functioning	87.95±17.49	39.75±25.72	p<0.0001
Mental health	63.92±20.34	26.8±14.61	p<0.0001
Bodily pain	70.1±23.9	64.4±26.9	NS
Vitality	69±18.62	37±28.59	p<0.0001
Perception of health	7.41±1.44	4.5±2.37	p<0.0001

Conclusions

Despite a significant weight loss, inflammatory markers are greater and quality of life lower when associated with depressive symptoms.