

# Ectomorphic somatotype and joint hypermobility are linked in panic patients

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## Introduction

Both anxiety disorders, particularly the endogenous anxious panic/phobic cluster (1,2), and the high body linearity or marfanoid habitus (3,4), are considered part of the clinical features of JHS, a benign hereditary disorder associated to an increased flexibility of the connective tissue. This work attempts to test whether there is an association between high body linearity or low corpulence, joint hypermobility, and panic and/or agoraphobia.

## Method

### Subjects

Sixty cases (30 men and 30 women) with panic and/or agoraphobia diagnosed at the psychiatric outpatient clinic of a general teaching hospital were compared to 60 non-clinical controls, matched by age and gender. The control group was not undergoing any psychiatric follow-up for treatment at the time of the study and never met criteria for any anxiety disorder. All subjects gave informed consent prior to entering the study. The study was previously approved by the ethics committee of the hospital.

### Instruments

The Spanish version of the Mini International Neuropsychiatric Interview (MINI 5.0.0) was used by trained clinical staff to establish a first diagnosis approach. Later, one experienced psychiatrist and/or psychologist interviewed individually and independently all patients following DSM-IV criteria in order to confirm the diagnoses. Sociodemographic characteristics such as educational degree (primary/higher education), marital status (single/married) and labor situation (employed/unemployed) were also gathered as dichotomic variables.

To assess somatotype, the Heath-Carter Somatotype Method (5) was used. This method provides a three-number rating representing endomorphy, mesomorphy and ectomorphy components respectively, always in the same order.

All participants filled the self-administered questionnaire to detect joint hypermobility (6). In those participants who rate positive according to the cut-off point, diagnosis of joint hypermobility was later confirmed or rejected by the Hospital del Mar criteria (7) using the usual cutoff points suggested by the authors: 3/4 (3 indicating a noncase, 4 or higher indicating a case) for males and 4/5 for females.

## Results

Cases included 77% of patients with panic disorder and agoraphobia, 18% of panic disorder without agoraphobia and 5% with only agoraphobia. Two-thirds of cases were taking antidepressants. Overall, 50% of subjects were males and there were no significant differences by gender between cases and controls in terms of age, educational degree, marital status nor labor situation.

There were significant differences between mean somatotype groups both in men [cases: 3½ - 4½ - 2½; controls: 4½ - 5 - 1½] ( $t=2.44$ ,  $p=.018$ ) and women [cases: 4 - 4 - 2½; controls: 5½ - 4½ - 1½] ( $t=3.66$ ,  $p=.0019$ ).

Men somatotype cases were significantly less endomorphic ( $t=2.91$ ,  $p=.005$ ) and more ectomorphic ( $t=2.28$ ,  $p=.026$ ) than controls. Women somatotype cases were significantly less endomorphic ( $t=3.83$ ,  $p=.000$ ), less mesomorphic ( $t=2.44$ ,  $p=.018$ ), and more ectomorphic ( $t=2.91$ ,  $p=.005$ ) than controls. Joint hypermobility status was significantly more frequent among cases in both, men [10% vs. 40%;  $\chi^2=5.7$ ;  $p=0.017$ ] and women [10% vs. 46.7%;  $\chi^2=8.2$ ;  $p=0.004$ ].

In the entire sample, after adjusting for educational degree, marital status, and labor situation, the cluster panic and/or agoraphobia was independently related to joint hypermobility status (OR=6.54, 95%CI=2.31-18.52,  $p=.000$ ) and ectomorphic somatotype (OR=3.75, 95%CI=1.37-10.25,  $p=.037$ ).

Figure 1. Men somatochart with the mean of the somatotypes of cases (box) and controls (circle).

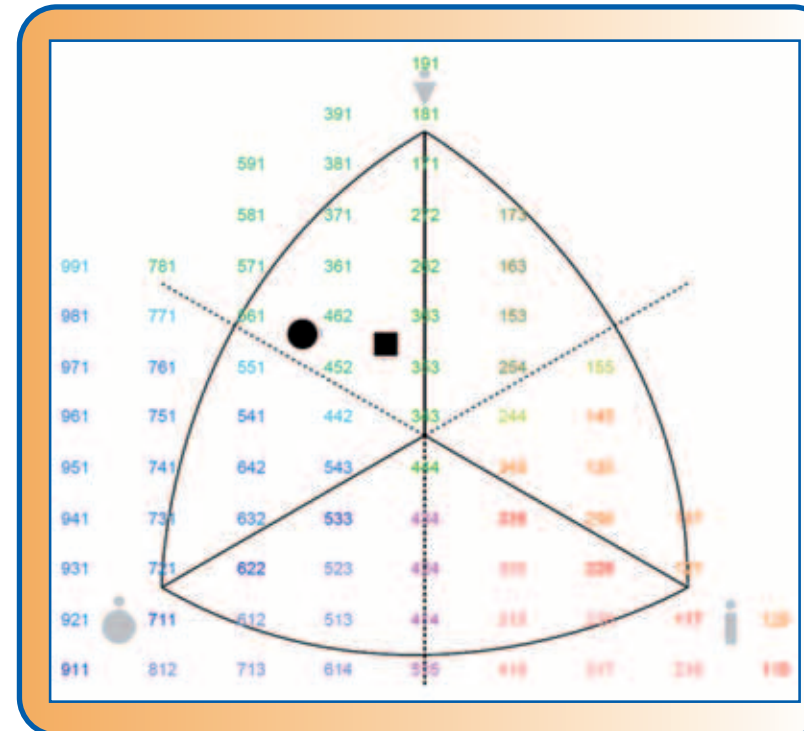


Figure 2. Women somatochart with the mean of the somatotypes of cases (box) and controls (circle).

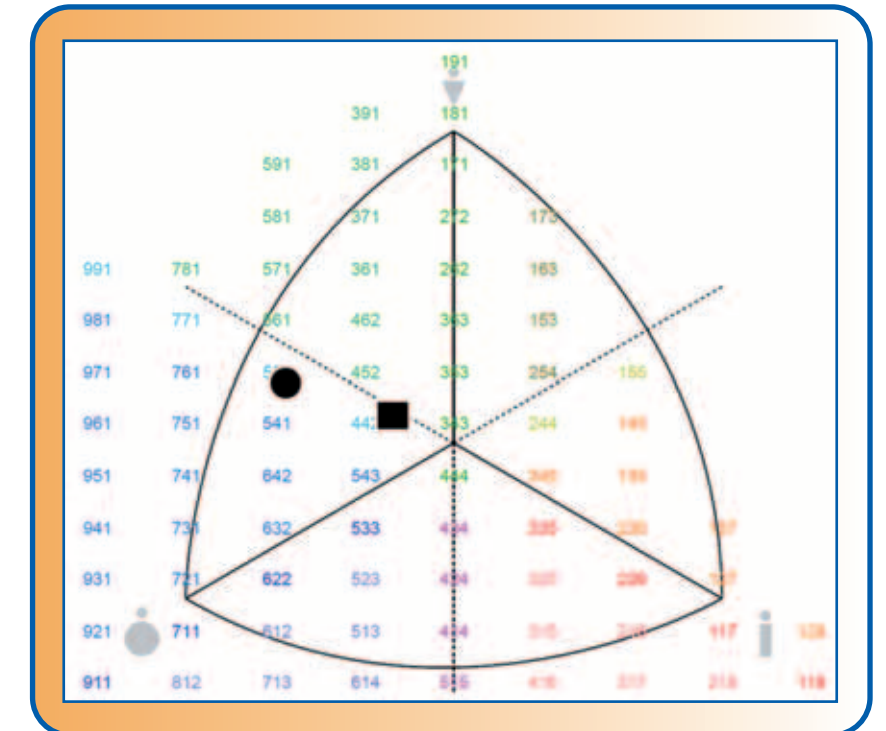


Table 1. Comparison of demographic characteristics by gender.

Characteristics	MEN					WOMEN				
	Cases (n=30)	Controls (n=30)	t/ $\chi^2$	df	p	Cases (n=30)	Controls (n=30)	t/ $\chi^2$	df	p
Age	32.83 (8.2)	31.24 (7.7)	0.77	58	0.442	31,53 (7.3)	30,04 (6.6)	0.83	58	0.410
Single	15 (50)	19 (63.3)	0.61	1	0.434	15 (50)	18 (60)	0.27	1	0.604
Univ. degree	7 (23.3)	14 (46.7)	2.64	1	0.104	11 (36.7)	14 (46.7)	0.27	1	0.600
Active workers	26 (86.7)	30 (100)	4.29	1	0.112	30 (100)	30 (100)	0	1	1

Table 2. Comparison of anthropometric measures by gender.

MEN	CASES (N=30)		CONTROLS (N=30)		t/ $\chi^2$	p	WOMEN	CASES (N=30)		CONTROLS (N=30)		t/ $\chi^2$	p
	Median	S.D.	Median	S.D.				Median	S.D.	Median	S.D.		
Height	176,77	6,87	176,88	6,22	0,07	0,945	Height	164,03	4,67	162,72	4,83	1,07	0,287
Weight	74,05	8,43	79,07	8,6	2,28	0,026	Weight	58,41	7,26	64,24	10,41	2,52	0,015
Triceps skinfold	9,58	3,72	12,79	5,06	2,79	0,007	Triceps skinfold	14,78	4,09	19,54	8,14	2,86	0,006
Subscapular skinfold	12,63	4,57	15,86	5,1	2,58	0,012	Subscapular skinfold	11,57	3,52	17,93	8,08	3,95	0,000
Supraspinale skinfold	11,8	7,45	17,16	9,21	2,48	0,016	Supraspinale skinfold	11,3	5,06	17,2	7,72	3,5	0,001
Medial calf skinfold	9,92	4,76	12,04	7,6	1,3	0,2	Medial calf skinfold	15,38	6,71	16,93	5,85	0,95	0,344
Arm girth	31,84	2,82	32,58	2,24	1,12	0,266	Arm girth	27,28	2,59	28,59	2,85	1,86	0,068
Calf girth	37,88	3,19	39,04	2,94	1,5	0,148	Calf girth	35,41	2,35	37,15	3,28	2,36	0,022
Humerus breadth	6,65	0,73	6,91	0,39	1,73	0,089	Humerus breadth	5,79	0,66	6,15	0,46	2,42	0,019
Femur breadth	9,57	0,75	9,74	0,53	1,01	0,315	Femur breadth	9,14	0,52	9,23	0,77	0,51	0,612
JH 5-questions	1,2	1,24	0,27	0,52	3,43	0,001	JH 5-questions	1,83	1,21	1,03	0,93	2,76	0,004

## Discussion

Since panic and/or agoraphobia disorders may be associated with joint hypermobility syndrome (JHS), an inherited collagen synthesis, it is suggested that the relationship found between panic and/or agoraphobia and ectomorphic somatotype might be mediated through JHS. Our results provide some clinical support for examining somatotype and JHS in psychiatric patients.

## References

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