

Association between psychomotor regression syndrome and multimorbidity syndrome in older than 65 years old

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OBJECTIVE: To determine the association between the development of psychomotor regression syndrome and the multimorbidity syndrome in patients older than 65 years.

METHODOLOGY: An observational, comparative prospective study was carried out, the comparison groups were patients with and without psychomotor regression syndrome [Minimum Motor Test], and the sample size was 59 and 74 per group. Multimorbidity was defined as the presence of three or more chronic diseases. Chi square was used, RM, test of t.

RESULT: 89.8% of patients with psychomotor regression syndrome presented multimorbidity, and in patients without syndrome the percentage

corresponds to 37.8%, these statistically significant values [$p=0.00$]. With these percentages it can be said that for every 14.51 patients with psychomotor regression syndrome and multimorbidity, there is one that does not have a syndrome and also has multimorbidity [OR=14.51].

CONCLUSION: There is an association between the syndrome of psychomotor regression and multimorbidity, reflecting a loss of independence for the activities of daily life, associated with cardiovascular pathologies. Currently, there is little up-to-date literature regarding psychomotor regression syndrome, without studies that imply its association with multimorbidity, which is why it is important to take up again given the impact on the autonomy of the geriatric patient and the rehabilitative potential that has a timely approach.

Key Words: Multimorbidity, Psychomotor regression syndrome, Elderly

The psychomotor regression syndrome is a clinical entity characterized by alterations in balance and gait, which impact on functionality due to both static and dynamic postural alterations of the patient. In previous studies, the correlation between psychomotor regression syndrome and a loss of functionality in the basic activities of daily life has been studied, showing 92% of the patients studied (1).

The motor, executive and behavioral alterations of this geriatric syndrome appear secondary to changes of the subcortical frontal systems, finding anomalies in the white matter, observing changes in the thalamus, basal ganglia and in subcortical frontal circuits resulting in an interruption of the postural programming and driving. In fact, subcortical structures, especially white matter, are areas that receive sensory information and then send information to frontal integration centers (2). Thus, the messages of sensorineural quality are deteriorated with the consequent problem to trigger a mistakenly integrated postural response at the central level, which causes a postural and/or motor response not adapted to the situation.

The precipitating factors of psychomotor regression syndrome are functional and organic. Functional factors include the syndrome of falls, bed rest, and immobility, among others (3). The organic factors are hyperthermia, dehydration, metabolic disorders, and hypotension, factors that generate hypoxia or decreased cardiac output such as cardiac arrhythmias, heart failure, anemia, etc. In the end, certain drugs such as benzodiazepines, antipsychotics and central analgesics can precipitate the appearance of this syndrome.

The clinical presentation is characterized by retropulsion, which corresponds to a buckling of the trunk in a sitting position with a loss of the anterior projection of the trunk with a tendency to fall into a standing position. The result is a projection of the altered center that hinders the safety during the March and efficiency when getting out of a seat. However, there may be mechanisms of adaptation such as knee flexion, which allow you to stand. Within the disorders of gait is the same postural instability that does not

allow physiological balance in a single posture. Thus, the balance disorder is the beginning of this freezing stage, which reflects the frontal subcortical dysfunction, with a small step in steps with a free sliding of the foot in the floor and a bipodal increase in support. The minimum motor test may also allow the early identification of each of these symptoms and sign.

Behavioral disorders vary depending on the speed of installation box. It distinguishes two clinical forms: an acute form and a chronic form. In the acute form, a great phobia to the idea of making any change of posture including walking is evident. The chronic form characterized by provoking a renunciation of executive functions manifested as bradyphrenia, indifference, apathy, apathy (4-7).

In this context, the objective is to determine the association between the development of psychomotor regression syndrome and the multimorbidity syndrome in patients older than 65 years.

METHODOLOGY

An observational, prospective, comparative study was performed in geriatric patients over 65 years of age and more attended to in the outpatient clinic of geriatrics during the year 2017, belonging to a Social Security Institution of the City of Querétaro, Mexico.

All those who were willing to collaborate with the interview were included; patients with total immobility syndrome and patients with established diagnosis of Parkinson's disease were excluded.

Using the Minimum Motor Test, two groups were integrated, when the score was equal to or greater than 10 points, it was defined as psychomotor regression, the score less than 10 was considered absence of the psychomotor regression syndrome.

The size of the sample was calculated with the formula of percentages for two populations, with a confidence level of 95% for a rejection zone [$Z_{\alpha}=1.64$], power of the test of 80% [$Z_{\beta}=0.84$], assuming that in psychomotor

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regression syndrome multimorbidity is 70% [P1=0.70]) and in the absence of psychomotor regression syndrome the prevalence of multimorbidity is 45% [P2=0.45]. The sample size corresponded to 45, however we worked with 74 patients with syndrome and 59 patients without syndrome, ratio of 1:1.34.

The sampling technique was non-randomized by quota, using as sample frame and list of patients who attended the consultation of the geriatric service (8-10).

Sociodemographic characteristics [age, sex] were studied; clinical characteristics [number of pathologies, number of hospitalizations per year]; presence of concomitant diseases [diabetes mellitus, hypertension, ischemic heart disease, atrial fibrillation and heart failure]. The geriatric syndromes included falls syndrome in the last year; polypharmacy represented by the number of drugs consumed per day; nutritional status measured with the MNA scale; and functionality, basic activities of daily life [Barthel] and instrumental activities of daily life [Lawton Brody]. Multimorbidity was defined as the presence of three or more chronic diseases (11-13).

Statistical analysis included averages, standard deviation, percentages, t test for independent populations, whitney mann test, chi square test, and odds ratio.

RESULTS

In psychomotor regression syndrome group, the average age is 79.51 years and the female sex predominates 61.0%, in the group that does not present a syndrome, age is 74.36 years [p=0.001] and the female gender represents 43.2% [p=0.042].

The number of pathologies is higher in the psychomotor regression syndrome [5.03 vs. 2.14, p=0.000], and the annual average of hospitalizations is similar [0.69 vs. 0.47, p=0.121].

Atrial fibrillation [OR=6.75, p=0.046] and heart failure [OR=5.64, p=0.018] were the strongest association for psychomotor regression syndrome. Table 1 presents the data for the rest of the chronic diseases.

For every 6.66 patients who present with psychomotor regression syndrome and fall syndrome, there is a patient who does not present regression syndrome and has a fall syndrome. [RM 6.66, p=0.00] Table 2 presents the information.

The average drug consumption [5.19 vs. 2.71, p=0.00] is higher in patients with psychomotor regression syndrome. Table 3 presents the information.

There is an association between nutritional status and psychomotor regression syndrome, 45.8% of patients with syndrome present malnutrition and 10.8% of patients without syndrome also present it [p=0.00]. Table 4 presents the information.

TABLE 1
Association of chronic diseases with psychomotor regression syndrome

Condition	Percentage Syndrome of Psychomotor Regression		Chi square	p	RM	IC 95%	
Diabetes Mellitus							
Si	59.3	32.4	9.61	0.002	3.03	1.49	6.19
No	40.7	67.6					
Arterial hypertension							
Si	83.1	56.8	10.5	0.001	3.73	1.64	8.48
No	16.9	43.2					
Ischemic heart disease							
Si	22	5.4	8.14	0.004	4.94	1.51	16.1
No	78	94.6					
Auricular Fibrillation							
Si	8.5	1.4	3.86	0.046	6.75	0.76	5.95
No	91.5	98.6					
Heart failure							
Si	13.6	2.7	5.56	0.018	5.64	1.15	2.77
No	86.4	97.3					

There is an association between the activities of daily living [p=0.03] and the instrumental activities of daily life [0.00] with the psychomotor regression syndrome. Table 5 presents the information.

89.8% of patients with psychomotor regression syndrome presented multimorbidity, and in patients without syndrome the percentage corresponds to 37.8%, these statistically significant values [p=0.00]. With these percentages it can be said that for every 14.51 patients with psychomotor regression syndrome and multimorbidity, there is one that does not have a syndrome and also has multimorbidity [RM=14.51]. Table 6 presents the information on this.

TABLE 2
Association of fall syndrome with psychomotor regression syndrome

Fall syndrome	Percentage Syndrome of Psychomotor Regression		Chi square	p	RM	IC 95%	
Si	64.4	21.6	24.91	0	6.66	3.12	14.28
No	35.6	78.4					

TABLE 3
Association of drug consumption with psychomotor regression syndrome

Parameter	Psychomotor Regression Syndrome		Mann Whitney	p
	Si	No		
Average	5.19	2.71	4.74	0
Standard deviation	3.02	2.48		
Average range	84.66	52.92		

TABLE 4
Association of nutritional state with psychomotor regression syndrome

MNA Stop	Percentage Syndrome of Psychomotor Regression		Chi square	P
	Si	No		
Malnutrition	45.8	10.8	36.11	0
Risk	42.4	29.7		
Normal	11.9	59.5		

TABLE 5
Functional association with psychomotor regression syndrome

Functionality	Percentage Syndrome of Psychomotor Regression		Chi square	P
	Si	No		
Barthel [basic activities of daily life]				
Total	33.3	0	78.2	0.03
Severe	43.1	1.7		
Moderate	21.6	20.7		
Mild	0	20.7		
Lawton Brody [instrumental activities of daily life]				
Total	78.4	6.9	63.71	0
Severe	9.8	10.3		
Moderate	7.8	22.4		
Mild	0	17.2		
Independent	3.9	43.1		

TABLE 6
Multimorbidity association with psychomotor regression syndrome

Multimorbidity	Percentage Syndrome of Psychomotor Regression	Chi square	p	RM	IC 95%
Si	89.8	37.8	37.26	0	14.51 5.52 38.13
No	10.2	62.2			

DISCUSSION

The psychomotor regression syndrome may be the clinical feature that announces the existence of a poor physiological reserve at several levels [neurological, skeletal muscle, cardiovascular etc.] as part of an element of geriatric fragility not addressed, and that appears during evolution or outcome of an acute medical event, which unbalances the physiological reserve and compromises the functionality, whose capacity for recovery or progression of the same syndrome, is determined by the intervention and the early diagnosis that is made in the students.

It was observed in this study that the geriatric patient has a correlation of psychomotor regression syndrome to a greater number of pathologies, having already studied by other authors as a risk factor with greater weight cardiovascular diseases, not being the exception in this study, highlighting the atrial fibrillation and heart failure, two pathologies that are the main reasons for hospital admissions and vascular complications associated with them, which suggests a greater approach and intervention in the geriatric patient, given the impact it may have on their functionality.

The geriatric patient with psychomotor regression has a greater dependence and need for specific care, which generates a greater risk of taking another type of geriatric syndromes such as the fall syndrome secondary to problems of gait and balance, and that this promotes a circle complex aggravating the dependency state; also for social, behavioral and biological situations, it is observed that nutritional assessment these patients have a higher risk of malnutrition, which leads the patient to an increase in muscle tissue loss and decreased mobility, thus generating greater dependence.

Since the nineties it has stopped conducting studies focused on psychomotor regression syndrome by itself and its association with other geriatric entities, being of importance its search before patients who attend some acute event given the functional impact and impact it has on the development of other geriatric syndromes, being preventable and with the possibility of rehabilitation.

CONCLUSION

There is an association between psychomotor regression syndrome and multimorbidity, reflecting a loss of independence for activities of daily living. Currently, there is little up-to-date literature regarding psychomotor

regression syndrome, without studies that imply its association with multimorbidity, which is why it is important to take up again given the impact on the autonomy of the geriatric patient and the rehabilitative potential that has a timely approach.

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