clinical characteristics and correlates of late life bipolar disorder

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ABSTRACT

Background: Bipolar disorder in the elderly could fall into two types: Early onset and late onset type(onset after 50 years old).Earlier studies reported different clinical characteristics and correlates for subtypes of late life bipolar disorder , so that late onset bipolar disorder have more medical co morbidity, less over activity and higher resistance to treatment. This study was designed to explore those postulated differences in clinical and socio demographics among old age individuals with early onset versus those with late onset bipolar disorder.

Method: In a cross sectional study 60 elderly with bipolar disorder and a healthy normal control group with mean age of 63/5 years old were recruited. Bipolar disorder was diagnosed using DSMIV-TR. Additionally; Young mania rating scale was used to detect clinical symptoms of resent manic episode. To explore potential correlated factors communication illness rating scale (CIRS), Cognitive failure questionnaire and paykle life event scale were administered to study group.

Results: Data analyses showed an increased sexual interest, more sleep disturbance and higher family history for bipolar disorder in patients with early onset type of bipolar disorder. (p=0/05). On the other hand, there were more vascular risk factors especially cerebral strokes among late onset type of bipolar disorder.

Discussion: Differences in clinical presentation and correlated factors between early versus late onset type of bipolar disorder lead to the idea of a distinctiveness of late onset type of the disorder. Further studies investigating neurobiological biomarkers and structural neuroimaging are recommended.

Introduction

Bipolar disorder is a serious illness that affects approximately 1% of the adult population Data from epidemiological studies suggest that 9% of patient with bipolar disorder were over the age of 50 in their first episode.(1)The age of onset of Bipolar disorder has been considered to be a potential clinical marker of heterogeneity For this disease Although there remains controversy,several studies have suggested subgroups with early and late onset Bipolar disorder,which may represent different subtypes of bipolar disorder(1)While early and late onset bipolar disorders presented with similar symptoms,but it is not clear wether they have different etiologies and vulnerabilities. (2)Resent reports have suggested that bipolar disorder beginning in late life is strongly associated with organic brain disease whereas early –onset cases are more likely to be associated with a family history of mood disorder.It is not yet clear whether late-onset bipolar disorder is a realcopy of the classic early-onset bipolardisorder with similar symptoms anddifferent etiologies,orpeople with early and late-onset bipolar disorder have a common underlying vulnerability that interacts with age-specific triggering factors.(2)Bipolar disorder in later life provides presentation of complex neuropsychiatric symptoms that often eludes the clinicians in the diagnosis and treatment.(3)Mania may present for the first time after the age of 50, this is so called late onset mania,which is often associated with underlying medical or neurological comorbidity.(4)Although late onset manic episodes in older adults are fairly common, few published data exist on late-life manic episodes.Mania has been estimated to be the cause of 4.6% to 18.5% of geriatric psychiatric admission in geriatric psychiatric unit.In 10% of elderly with bipolardisorder manic feature might present for the first time after 50.(5)

Studies comparing mania in older and younger adults have found no substantial differences in clinical presentation.It has been suggested,however,that mania in older patients is less severe and manifests with more irritability,confusion ,psychosis,and mixed features.(6)

In this line,several findings from literature reported higher rates of family history in younger bipolar people.(7)Compared to those with later onset,early onset bipolar patients may be more likely to be aggressive , threatening nonadherent with prescribed psychiatric medication,and have received Ect treatment.(8)It is hypothesized that cerebrovascular risk factors can be etiologically related to the initial expression of bipolar disorder in later life(9).Additionolly patient with late onset bipolar disorder have reported a higher body mass index(BMI)and a greater burden of endocrine(hypothyroidism, diabetes) and respiratory illnesses.(10)

Diagnosis of mania in later life presents specific clinical challenges. The DSM-IV-TR criteria for diagnosing mania focus on the presence of a mood disturbance with abnormal and persistent elevation of mood,expansiveness, or irritable mood(11),Older adults more often display a mixed symptom picture with concurrent presence of depressive and manic symptoms. As with younger bipolar patient, sleep difficulties are often present and thought disorder symptoms such as incoherence, loose association ,derailment, illogical thinking,and neologism,may occur in late-life mania,with severity as great as in schizophrenia.(12)Irritability is more common than hyperactivity in older manic adults, and cognitive impairment is more often noted in older adults with mania than manic younger adults .(13)Older patients with mania are less likely than younger mania patient present with increase in activity ,sexual interest, religiosity, and making plans.(14)The sensitivity of the present DSM-IV-TR criteria is decated as a diagnostic tool for geriatric mania.Some atypic features of mania in elderly such as cognitive deficit, disorganized behavioral anddisinhibition maybe confused with delirium and dementia. (15)

Therefore a thorough psycho geriatric assessment considering medication, co morbid medical condition ,delirium and dementia is necessary for diagnose of late onset mania in context of bipolarity. Paucity of researches involving early and late onset bipolar disorder in Iranian elderly motivated us to conduct this study. We hypothesized different clinical demographic characteristics for early versus late onset bipolar disorder.

Methods

This cross-sectional study was conducted at mental health hospitals affiliated to Shiraz University of Medical Sciences in Iran.The proposalwas approved by the university ethical committee.In a convenient consecutive sampling method 80 patients aged 60 who initially presented with manic feature were screened. Subjects were excluded if they were too frail to cooperate or they had significantly cognitive impairment. Patients that their manic feature was exclusively appeared in consequence to substance usewere excluding as well. Considering the above exclusion criteria 20 patients were excluded and 60 subjects remained in the study.

Method

To confirm the initial impression, patients were interviewed based on DSM-IV-TR by a senior psychiatry resident(MD).Considering the age that disorder presented for the first time, patients were classified into early onset bipolar disorder (EOSBPD) and late onset bipolar disorder (LOSBPD) groups.EOS group included individuals whose disorder presented before age of 50 for the first time. And those patients that their bipolar disorder presented for the 1st time after age of 50 were included in LOS group. We also recruited a healthy control group matched for some clinical and demographic variables. The control group was selected from non-relative visitors of psychiatry inpatients.Clinical and demographic characteristics of the study and control groups are presented in Table 1.

Measures:

Young mania rating scale was used to detect symptoms of recent manic episode. To explore potential correlated factors communication illness rating scale CCIRS; cognitive failure questionnaire(CFQ) and Paykle life event scale were administered to both study and control groups.CIRS is a 14 domain scales which rates the cumulative burden of medical disorder.(16)

Cognitive Failure Questioner (CFQ), was developed by Broadbent et al it isa 25- item self report measurement that evaluated everyday cognitive slips or errors. Participants were asked to answer the questions in 5 point Likert scale from 0 (never) to 5 (very often).(17) According to Aboulghasemi and Kiyamarsi(2010) CFQ psychometric characteristics were acceptable in Iran.(18)

Scale of Life Events was introduced by Paykel and Uhlenhuth. This list of life events contained 61 events which ask the participants if they experience this situations till now, or not, if "yes" how much they feel upset (0 to 20).(19) This scale has been validated by Mohajer in Iranian population (20).

The socio demographic questionnaire was administered to describe the socio demographic status of the study sample; two extra questions explored the presence of family history and the probable history of previous depression were also included.

Collected data were analyzed by using SPSS statistical software, version 17. Descriptive statistics and comparing means test were used. P value less than 0.05 was consider significant.

Results

Socio demographic and clinical variables of study sample is presented in table 1. The mean age for study was 63/5 years. 30 patients including 21 male and 9 female were diagnosed with EOSBPD and 31 patients including 23 male and 8 female were put under LOSBPDcategory. Control group were 30 individuals including 14 male and 16 female. Demographic factors compared between two groups of patient and control group. In comparing analyses, patients with early onset bipolar disorder were significantly different in term of family history. So that EOS patients reported higher rate of bipolar disorder in their relatives than has bipolar patients (x= 3.08, x=1). There was no significant difference in other socio demographic variables.

Table 1: Distribution of demographic factors among patients and normal

Variables	Grouping	Sample				
		BMD Early Onset	BMD Late Onset	Normal		
		Frequency (%)	Frequency (%)	Frequency (%)	χ^2	Sig
Gender	Male	21(70%)	23(74.2%)	14(46.7%)	0.13	0.78
	Female	9(30%)	8(25.8%)	16(53.3%))		
Marital Statues	Single	3(10%)	0(0%)	1(3.3%)	3.26	0.07
	Married	27(90%)	31(100%)	29(96.7%)		
Live with	Alone	4(13.3%)	1(3.2%)	5(16.7%)	2.07	0.15
	Family	26(86.7%)	30(96.8%)	25(83.3%)		
Family history BMD	Yes	25(83.3%)	11(35.5%)	0(0%)	14.43	** 0.001
	No	5(16.7%)	20(64.5%)	30(100%)		
History of depression in adulthood	Yes	20(66.7%)	25(80.6%)	2(6.7%)	1.54	0.21
	No	10(33.3%)	6(19.4%)	28(93.3%)		
Substance abused	Yes	3(10%)	3(9.7%)	1(3.3%)	0.002	0.96
	No	27(90%)	28(90.3%)	28(96.7%)		

Exploring the role of traumatic events,there was no significant difference in Paykle life event scale score between 2 groupspatient and control group.

(P=0.27)

Analysis on sub-scales of CIRS compare vascular illness such as CVA, DM hyperlipidemia, hypertension and smoking in patients with late onset bipolar disorder , early onset type and control group. Results indicated that only CVA was significantly differ among groups and reported higher rate in LOS bipolar disorder. (P=0.05)

Patients with LOS bipolar disorder reported higher degree of cognitive deficiency (x= 39.7) than patients with early onset bipolar disorder (x=20.50)and control group, using one way ANOVA, indicated that these differences were significant (P=0.001).

Incomparing analysis onsubscales of young mania rating scale (YMRS); there was a significant difference insleep and sexual desires subscales.Patients with early onset bipolar disorders showed less sleep time than LOS groups (X= 3.67; X= 4.13).More early onset bipolar patients has higher sexual desires than LOS group (X=1.7; X=1).There was no significant difference in other YRMS subscales between two groups.**(See table 2).**

Table 2: Distribution of YMRS subscale among early onset BMD and late onset BMD

Variable	Grouping	Mean	Std. Deviation	Sig	95% Confidence Interval of the Difference	
					Lower	Upper
Elevated Mood	BMD Early Onset	2.90	1.39	0.44	-0.45	1.03
	BMD Late Onset	2.61	1.49			
Increased Motor Activity	BMD Early Onset	4.20	5.14	0.48	-1.2	2.5
	BMD Late Onset	3.54	0.85			
Sexual Interest	BMD Early Onset	1.7	1.53	0.05 *	-0.025	1.4
	BMD Late Onset	1	1.29			
Sleep	BMD Early Onset	4.13	0.89	0.02 **	0.065	0.84
	BMD Late Onset	3.67	0.59			
Irritability	BMD Early Onset	6	2.34	0.6	-0.82	1.4
	BMD Late Onset	5.7	1.98			
Speech	BMD Early Onset	6	2.44	0.2	-1.8	0.39
	BMD Late Onset	6.7	1.82			
Language Thought Dis	BMD Early Onset	3.5	1.45	0.06	-0.03	1.2
	BMD Late Onset	2.9	0.98			
Content	BMD Early Onset	6.8	1.87	0.19	-0.38	1.86
	BMD Late Onset	6.1	2.47			
Disruptive	BMD Early Onset	4.16	2.26	0.63	-0.93	1.52
	BMD Late Onset	3.87	2.52			
Appearance	BMD Early Onset	1.13	1.19	0.07	-0.048	1.08
	BMD Late Onset	0.61	1.02			
Insight	BMD Early Onset	5.10	7.34	0.26	-1.17	4.15
	BMD Late Onset	3.61	0.92			
Number of Admissions	BMD Early Onset	3.2	1.83	0.002**	-0.49	2.16
	BMD Late Onset	**1.9**	**1.38**			

Discussion

Etiological and clinical differences of early onset and late onset type of bipolar disorder have been a matter of ambiguity. A variety of clinical and socio demographic characteristics were compared among patients with late onset and early onset bipolar disorder. The main aim of current study was to explore differences in clinical features and associated factors of early onset versus late onset bipolar disorder (BPD).

Considering the familial risk factor for bipolar disorder; presence of history for family history was investigated among the three groups. The results showed that patients with early onset bipolar disorder had more positive family history for bipolar disorder than those of late onset bipolar disorder and control group. This finding is line with results of some earlier studies. Godwin and Jomison found a lower rate of positive family history among late onset bipolar disorder than those with early onset type of the disorder. (21)

In terms of post history for earlier unipolar depressive episodes, there was no significant difference between patients with late onset of bipolar disorder and the control group.

Some authors proposed latent type for late life bipolar disorder. In which the subjects, whose first episode of mania initially presented in later age, might have history for episode(s) of unipolar depression in their earlier stage of life. This finding did no support results from earlier studies that showed history of unipolar depressive episode among patients with late onset BPD. (22)

Comparing analysis on data of current study did not reveal any significant different for demographic factors such as gender, marital status, level of education, job and area of living between three groups. Clinical presentation was another matter of interest in this study. In presents study clinical features of current manic episode were compared between two groups of the patients. Consistentwith earlier studies, data of current study showed significant difference in some clinical presentations between patients with early onset and late onset type of BPD (23). So that patients with early onset and late onset type of the disorder presented with higher sexual desires and less sleep time than late onset group. These findings are consistent with finding from previous studies that reported higher sexual desire and behaviors in individuals with early onset type of BPD. (24) Except above findings there were not a significant difference in other

clinical features like psychotic features and etc.

Given the role of psychological stressors and life events in etiological formulation of mood disorders; in current study, history for traumatic life events was investigated as well. The results of this study did not suggest a significant role for traumatic life events in the etiology of bipolar disorder in elderly individuals. This is not in line with previous studies reported higher history fortraumatic life events in patients with late onset bipolar disorder. (25-26) Taking together the etiological role of psychological stressors in late onset bipolar disorder could still be a matter of controversy. Negative history for traumatic life events, and earlier depressive episodes might be biased due to poor memory, lack of documented medical records and unreliable collateral history.

Another associated factor that we explored carefully in this study was the burden of medical conditions. However the cumulative burden of medical illness was not higher among patients with BPD and healthy control group.

In consistent with other studies, results from this study revealed a significant more history for cerebral stroke in patients with late onset type of BPD than patients with early onset BPD and control group. This striking finding supports the cardinal etiological role of vascular pathology indeveloping BPD in elderly individuals. (27- 31) These findings provide more evidence in favor of a vascular subtype for late life bipolar disorder.

While there is some evidence that thyroid dysfunction is supposed to be a potential associated factor for bipolar disorder, data of this study was not significance.

Impairment in cognitive function is a challenging clinical aspect of late onset bipolar disorder.Some studies reported a residual cognitive deficiency in euthymic phase of bipolar disorders in patients with late onset BPD.(32) Detp and colleagues noticed a significant positive correlation between the age of onset of BPD and the level of cognitive impairment (33). In current study individual with later onset BPD reported higher cognitive impairment.

Being unfamiliar with the cognitive feature of late life BPD could lead to misdiagnosis of dementia. However the differences in socio demographic and clinical aspects of late onset BPD and early onset BPD have not been consistent, Differences in some correlated factors such as vascular risk factors, more cognitive impairment and clinical presentation are suggestive a distinct subtype for BPD in older age.
We acknowledge that the result of current study cannot be generalized because of small sample size. Further studies using some similar methodology and neuroimaging investigation is recommended.

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