Supplementary Table 2: Extensive summary of case reports of BD initially presenting with psychiatric manifestations and more delayed neurological symptoms.

Citation	N^0	Gender	Age at Diagnosis of BD (years)	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
					Age of onset (years)	Symptoms	Age of onset (years)	Symptoms		
Lawrence et al (1995) (1)	1	F	58	HTN	56	***Mood:*** Low mood (diurnal mood variations), anhedonia ***Psychotic*:** hypochondriac delusions, intolerance of various odors, bizarre behaviors	57	***Cognitive****:* Forgetfulness	**CT scan:** Bilateral periventricular hypodensity Mild to moderate ventricular enlargement	TCA (clomipramine) AP (trifluoperazine) ECT (6 sessions)
							58	***Gross motor*:** Generalized hyperreflexia, left extensor plantar response ***Gait abnormalities****:* Stooped and dyspraxic		
	2	F	55	HTN	50	Bereavement over father's death	55	***Cognitive****:* None reported ***Gross motor:*** Generalized hyperreflexia, increased tone in upper arms, reduced arm swing ***Gait abnormalities:*** None ***Others:*** Urinary incontinence	**CT scan:** Bilateral periventricular white matter hypodensity Small hypodense area in the left frontal lobe Ventricular enlargement	AP (Chlorpromazine)
					54	Disorganized, bizarre behavior				
					55	***Mood:*** mild depression, aggression to colleagues ***Psychotic:*** grandiose delusions of psychic powers, auditory hallucinations ***Others****:* neglecting housework, Social disinhibition				
Summergrad and Peterson (1989) (2)	3	F	71	HTN DM HF	61	***Mood:*** 8 years history of depression, withdrawn and being housebound ***Psychotic:*** None	69	***Cognitive:*** memory impairment, variable attention, problems with repeated motor programs, perseveration, and stimulus	**CT scan:** Diffuse regions of diminished white matter attenuation in periventricular distribution	TCA (desipramine, tranylcypromine)

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
						Others: Poverty of speech		boundedness on trail making and clock test suggestive of frontal lobe syndrome and subcortical dementia ***Gross motor:*** None reported ***Gait abnormalities:*** Gait disturbance **Others:** Urinary and fecal incontinence	including the centrum semiovale	
	4	F	87	None	86	***Mood:*** Upon admission: Fearfulness and depression; expressed a desire to die After admission: violent behavior ***Psychotic:*** Disorganized thought process ***Others:*** None reported	86	***Cognitive:*** Impaired short-term recall, memory loss, disorientation ***Gross motor:*** None reported ***Gait abnormalities:*** None reported **Others:** Urinary and fecal incontinence	**CT scan:** Bilateral periventricular white matter hypodensity Dilated ventricles Cerebellar and cortical atrophy	TCA (tranylcypromine) AP (Haldol)

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
Venna et al. (1988) (3)	5	M	68	Right cerebral infarction at 65 years old with no residual motor symptoms	65	***Mood**:* 3 years history of depressive episodes responding to phenelzine	68	***Cognitive:*** Preserved orientation and forward digit span, mild overall decline in intelligence, mild impairment in language, frontal lobe functions, recent and remote memory, striking impairment of constructional abilities ***Gross motor:*** *Mild spastic hemiparesis, bilateral Babinski's reflex* ***Gait abnormalities:*** *None reported* **Others:** Dysarthria, hypophonia, decreased upward gaze, brisk jaw reflex, masklike face	**CT scan:** Old right parietal infarction Bilateral low-density lesions in the periventricular white matter and centrum semiovale Hypodensities in centrum semiovale extended to cortical mantle	MAOI (NARDIL) TCA (maprotilline)
					68	***Mood:*** *Sad, social isolation, low appetite and energy, decreased sleep, anhedonia, poor self-care* ***Psychotic:*** Visual and auditory hallucination, paranoid ideations ***Others:*** *None reported*				
	6	F	70	HTN	62	***Mood:*** *M*ild depression	70	***Cognitive:*** Dementia characterized by severely impaired	**CT scan:** Bilateral white matter low	TCA (imipramine)

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
					70	***Mood:*** Sad, depressed, anhedonia, helplessness, hopelessness, low energy, hypersomnia, ***Psychotic****:* None ***Others:*** None reported		visual memory, significantly abnormal frontal lobe function and constructional ability on neuropsychological testing, spared language. ***Gross motor:*** None reported ***Gait abnormalities:*** None reported ***Others:*** Dysgraphia. Urinary incontinence	densities around frontal and occipital horns and the bodies of the lateral ventricles not extending to cerebral cortex	
	7	F	89	Treated: ischemic cardiomyopathy CHF DM Hypothyroidism	86	***Mood:*** Sadness, loneliness, crying, low energy, poor appetite, early morning awakenings	89	***Cognitive****:* Dementia with abnormalities of memory and frontal lobe function on neuropsychological testing, forward digit span and language were spared ***Gross motor:*** Bradykinesia, bilateral palmar grasp reflex ***Gait abnormalities:*** Unsteady narrow based gait **Others:** Occasional urinary incontinence	**CT scan:** Ventricular enlargement Extensive bilateral low densities limited to the perilateral ventricular regions Moderate gyral atrophy	TCA (desipramine then maprotiline)
					89	***Mood:*** Worsening of previous depressive symptoms ***Psychotic:*** None reported ***Others:*** None reported				
	8	M	76	HTN CHF DM	75	***Mood:*** Depression	76	***Cognitive:*** Confusion, on neuropsychological	**CT scan:** Diffuse periventricular	TCA (imipramine, desipramine)
					76	***Mood:*** Failure to				

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
						thrive, poor appetite, weight loss, socially isolated, decreased sleep and appetite ***Psychotic:*** None ***Others****:* Apathetic		testing: mild overall compromise of cognitive function, dramatic deficit in visuospatial and constructional abilities, impaired visual memory, moderate loss of set shifting. Preserved orientation, forward digit span, verbal fluency language production ***Gross motor****:* Bradykinesia, paratonic rigidity of all limbs, ***Gait abnormalities:*** Slow ***Others:*** Dysgraphia, occasional urinary incontinence	low densities that did not involve centrum semiovale and did not extend to the cortex.	
Nages and Nujan Nagaratnam (1998) (4)	9	F	88	HTN	88	***Mood:*** agitation; aggression ***Psychotic:*** Late-onset paranoid delusions with religious overtones, thought process loosely associated	88	***Cognitive:*** Memory normal for age ***Gross motor:*** Left extensor plantar response at presentation. Subsequently developed swallowing difficulties from pharyngeal incoordination	**CT scan:** Extensive white matter changes in relation to ventricles Small focal densities in the regions of basal ganglia (lacunar infarctions)	-

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
								Gait abnormalities: *None reported*		
	10	F	77	None	77	***Mood****:* agitation; aggression ***Psychotic:*** Persecutory delusions, auditory hallucinations ***Others:*** None reported	77	***Cognitive****:* Confusion, reduced attention span ***Gross motor:*** None reported ***Gait Abnormalities:*** None reported	**CT scan:** White matter low attenuation in relation to frontal horns and borders of lateral ventricles Widening of Sylvian fissures Widened cortical sulci Widening of ventricular system	-
	11	M	70	HTN Smoker Short systolic murmur in aortic area Left CVA at age 67	70	***Mood:*** Emotionally labile, quick to anger, socially withdrawn, anhedonia, loss of functionality ***Psychotic:*** None reported ***Others:*** None reported	71	***Cognitive:*** Significant intellectual deterioration ***Gross motor:*** None reported ***Gait abnormalities:*** Abnormal gait since CVA ***Other:*** Significant functional impairment	**CT scan:** Severe white matter low attenuation in relation to ventricles Small hypodense area in the left internal capsular area Lacunar infarction lateral to the right frontal horn	-

Citation	N⁰	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
	12	M	65	DM CAD CHF Stroke	-	***Mood:*** None reported ***Psychotic:*** None reported ***Others****:* Behavioral disturbances of frontal lobe type	-	***Cognitive:*** Intact ***Gross motor****:* Stiffness and clumsiness of right hand Difficulty walking but no weakness Bilateral slow dysrhythmic finger movement of both hands ***Gait abnormalities****:* None reported	**CT scan:** White matter changes that do not extend to cortex Hypodense areas of ill-defined borders in frontal lobes of both hemispheres	-
Pathania et al (2018) (5)	13	F	55	uncontrolled HTN DM DL	-	***Mood:*** Depressed mood ***Psychotic:*** None reported ***Others****:* Behavioral disturbances of frontal lobe type	52	***Cognitive:*** Forgetfulness, lack of concentration, decreased attention span ***Gross motor:*** Problems in articulation, intentional tremor, abnormal coordination ***Gait abnormalities:*** unsteady gait **Others:** Impairment in ADL (eating, bathing)	**MRI:** Hemorrhagic infarct in the right thalamus with extensive chronic ischemic white matter lesions	Cholinesterase inhibitor

Citation	N[0]	Gender	Age at Diagnosis	Risk Factors	Psychiatric Manifestations		Neurological Manifestations		Neuroimaging Findings	Treatment
El Shazly 1994 (6)	14	F	62	HTN	59	***Mood:*** Depressed agitated mood, suicidal ideations, poor concentration, poverty of speech, worthlessness, hopelessness followed by a hypomanic state while on trimipramine	62	***Cognitive:*** Fluctuating level of conscious awareness, short term memory deficits, marked constructional deficits on neuropsychological tests ***Gross motor:*** Generalized hyperreflexia, tremor, oral dyskinesia ***Gait abnormalities:*** Tottering gait ***Others:*** None reported	**CT scan with contrast:** Well-marked multiple areas of loss of attenuation in white matter seen in both hemisphere consistent with lacunar infarcts	TCA (trimipramine, amitriptyline) SSRI (fluvoxamine) AP (amoxapine, Haldol) Lithium, carbamazepine ECT (3 courses)
					59 – 61	***Mood:*** Rapid cycling bipolar illness where depressive and hypomanic episodes alternates and were resistant to treatment with antidepressants, ECT and mood stabilizer				
					62	***Mood:*** Less severe mood cycling predominantly labile with generalized anxiety ***Psychotic:*** None reported ***Others:*** None reported				

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