**Supplementary item 1: Comprehensive data of 32 patients**

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| Reference | Country | Age/sex | Measles vaccination | Childhood measles | Duration of illness before presentation | Psychiatric manifestation | Clinical features | Neuroimaging | Brain biopsy | Course of illness | Treatment and its response | Outcome |
| Koehler and Jakumeit 1976 | Germany | 20/F  Pregnant | NA | NA | 2 weeks | Dissociative disorder  Leonhard's  speech-prompt catatonia | Vision loss  Denial of vision loss  She was cheerful despite vision loss    Vision loss was  interpreted as hysterical “la belle indifference”  Auditory  hallucinations  Generalized catatonic rigidity  Soon progressed to encephalopathy | NA | NA | Acute fulminant | NA | Delivered a normal baby  Became akinetic mute in few months |
| Moodie 1980 | South Africa | 16/F | NA | NA | 2 days | Schizophrenia | Paranoid  behavior and auditory hallucinations | NA | Perivascular infiltration  Increase in microglial cells  Dead and 'dying' neurons  within the cortex  excessive subpial gliosis  Intranuclear inclusions in neurons and oligodendroglia  No measles antigen could be demonstrated | Acute fulminant | NA | Died 7 days later |
| Caplan et al 1987 | USA | 9/F | NA | NA | 6 months | Schizophrenia (Early onset) | Psychomotor agitation  Insomnia  Delusions  Declining scholastic performance  Speech  incoherence, echolalia,  Auditory hallucinations  Myoclonus | NA | NA | Chronic | Thioridazine  Extrapyramidal side effects  Later  Phenothiazine  and  chlorpromazine | Died 2 years after |
| 11/M | NA | Measles at age 3  years | Sudden | Schizophrenia | Hyperactivity,  aggressive behavior  Inappropriate  laughing.  Suicidal ideation  Neologisms,  perseveration, and echolalia  Formal thought disorders    Social withdrawal.  Myoclonus | NA | NA | Acute fulminant | chlorpromazine | Akinetic mute within 4 weeks  Died 1 year later |
| Salib 1988 | United kingdom | 21/M | NA | NA | 8 months | Schizophrenia-like state with bizarre dysmorphophobia | Withdrawn and apathetic  Preoccupied  with the shape of various body parts  Clumsy  anxious, restless, and agitated | CT= normal | NA | Subacute | Treated in psychiatry unit. | He died 8 months later |
| Duncalf et al 1989 | Australia | 21/F | NA | NA | 2 months | Schizophrenia | Delusions  Fearful and perplexed with  echolalia.  Lately withdrawn, agitated and had echolalia | NA | Generalized grey matter atrophy  Diffuse demyelination  Inclusion bodies in neurons | Acute fulminant | Fluphenazine  Psychotic symptoms improved    But had extrapyramidal side effects | Died within 6 months |
| Mattinson 1989 | United Kingdom | 44/F | NA | Measles at 5 years | Sudden | Functional  psychiatric disorders | Impaired recent memory  Emotional lability  Social disinhibition  Dysarthria and gait abnormality | NA | Focal demyelination  with gliosis  Inflammatory cell infiltration  Virus inclusion bodies  Measles virus was not demonstrated. | Acute fulminant | NA | Died 9 weeks later |
| Forrest and Stores 1996 | United Kingdom | 9/F | NA | Measles at the age of 2 | 4 months | Psychosis (Possibly early onset schizophrenia) | Nightmares seeing 'aliens' in a dream  Alleged attack by a bald man  Disorientated and uncooperative  Myoclonus and progressive encephalopathy | NA | NA | Acute fulminant | NA | Died after 3 months |
| Jähnel 2003 | Germany | 19/M | NA | NA | 2 months | Schizophrenia | Auditory and visual hallucinations  Lack of interest  Decreased drive  Seizures and  Myoclonus | T2/FLAIR hyperintensity  In pons | NA | Acute fulminant | Flupentixol | Died within 2 months |
| Datta et al 2006 | India | 24/M | NA | NA | 5 months | Moderate depressive episode with somatic  symptoms (refers to Major depressive disorder as per DSM-5) | Feeling sad  Loss of interest  Increased fatigue and lethargy  Multiple somatic  complaints and insomnia  2 months later,  Myoclonus and encephalopathy | CT=normal | NA | Acute fulminant | Sertraline | Died within 2 months |
| Kayal et al 2006 | India | 13/M | No vaccination | had measles  at the age of 5 | 2 months | Major depressive disorder | Quiet and withdrawn  Confined to home  Apathy  Inappropriate crying and laughter  Difficulty  in walking  Myoclonus and encephalopathy | Normal | NA | Acute fulminant | Fluoxetine | Rapidly became bedridden |
| Theethira et al 2009 | India | 15/M | Not received | measles at  8 months of age | Several months | Schizophrenia | Paranoid and self-referential  delusions  Later  Recurrent falls  Myoclonus and  encephalopathy | NA | NA | NA | A first-generation antipsychotic  drug | Lost to follow up |
| Baran et al 2010 | Turkey | 31/M | NA | Measles at 9  years | 1 year | Schizophrenia | Delusions  and  depressive mood  Catatonia  Cognitive decline  Akinetic mutism | Normal | NA | Subacute | Olanzapine  Extrapyramidal side effects  ECT | NA |
| Aggarwal et al 2011 | India | 13/M | NA | NA | 5 months | Catatonia  (Possibly catatonic schizophrenia) | Withdrawn behavior and  decreased interaction, mutism.  Prolonged standing, clenching of teeth, violent behaviour  Poor scholastic  performance  Akinetic mutism | T2/FLAIR hyperintensity  foci in periventricular region | NA | Acute fulminant | Lorazepam  No improvement | Lost to follow up. |
| Aggarwal et al 2011 | India | 14/M | NA | NA | 1 month | Manic episode | Behavioural changes  Became talkative,  irritable and angry  Frequent bathing and reduced sleep  Increased psychomotor activity  Myoclonus and encephalopathy | T2/FLAIR hyperintensity  foci in periventricular region mainly parieto-occipital region | NA | Acute fulminant | Olanzapine  Unduly sedated and urinary incontinence | Lost to follow up. |
| Altunkaynak et al 2013 | Turkey | 19/F | NA | NA | 1 year | Schizophrenia | Behavioral changes    Later, myoclonus and encephalopathy | NA | NA | Subacute | Antipsychotic treatment | Died within 1 year |
| Dayal and Balhara 2014 | India | 14/M | NA | NA | 6 months | Catatonia (Possibly catatonic schizophrenia) | Reduced interaction  Mutism  Catatonic odd posturing  Poor eye contact Negativism | NA | NA | Acute fulminant | Lorazepam  Reduction in BFCRS score to 4. | 4 months later developed diffuse encephalopathy  Lost to follow up. |
| Kartal et al 2014 | Turkey | 14/F | NA | NA | 3 months | Schizophrenia | Insomnia  Visual and auditory hallucinations  Disorganized behavior and poor self-care  Agitation | Normal | NA | Acute fulminant | Olanzapine  No response | NA |
| Erdogan et al 2015 | Turkey | 20/M | NA | NA | 6 months | Manic episode | Increased irritability and increased psychomotor activity  decreased need for sleep & increased goal directed activity  Reckless spending  Increased subjective energy | T2/FLAIR hyperintensity  In splenium of corpus callosum | NA | Chronic course | Olanzapine | Died 2 years |
| Manoj et al 2015 | India | 23/F | No | Present | 1 year | Excessive sexual drive (Nymphomania) | Behavioral abnormalities (increased libido, disinhibited sexual behavior) | T2/FLAIR hyperintensity | NA | Subacute | Risperidone | Died after 1 year |
| 27/M | No | Present | 2 year | Excessive sexual drive (satyriasis) | Behavioral abnormalities (increased libido, disinhibited sexual behavior) | T2/FLAIR hyperintensity |  | Chronic progressive c | Risperidone | Akinetic mute |
| Parmar et al 2017 | India | 15/M | NA | NA | 5 months | Schizophrenia | Behavioral changes  Insomnia  Delusions and  hallucination  Smiling and muttering to self  Incontinence  Repeated motor acts ( stereotypy)  Catatonic odd posturing | T2/FLAIR hyperintensity  foci in periventricular region | NA | Acute fulminant | Risperidone | NA |
| Tak et al 2017 | Turkey | 14/M | Fully vaccinated | measles infection at the age of 4 months | 9 months | Nonspecific symptoms  led to psychiatric consultation | Poor scholastic performance  Decreased communication  Difficulty in finding appropriate words  Lately, myoclonus and diffuse encephalopathy. | MRI=normal | NA | Subacute | NA | Discharged on mechanical ventilation |
| Ahmad et al 2018 | India | 26/M | NA | NA | 2 months | Acute and transient psychotic disorder | Withdrawn behavior, muttering to self and inappropriate  smiling, reduced self-care  Impaired sleep and disorganized behavior  Myoclonus and encephalopathy | T2/FLAIR hyperintensity  foci in periventricular region mainly frontal-parietal region | NA | Acute fulminant | Olanzapine  Severe extrapyramidal side effects (parkinsonian  symptoms) | Improvement in his psychotic symptoms  but he developed severe extrapyramidal side effects |
| Bhat et al 2018 | India | 8/M | NA | NA | 7 days | Depressive episode (with antidepressant induced mania) | Change in behaviour  Excessive talking, overfamiliar  behaviour, decreased sleep, spitting, excessive playing and  hyperactivity | NA | NA | Acute fulminant course | Fluoxetine | No improvement after 2 weeks |
| Reddy et al 2018 | India | 17/M | NA | NA | 1 year | Moderate depressive episode | Poor scholastic performance  Crying spells, and irritability  Sudden drop of objects from hands  4 months later,  Repeated fall  myoclonus and encephalopathy | T2/FLAIR hyperintensity  foci in periventricular region | NA | Subacute | Psychotherapy and  fluoxetine | NA |
| Gökoglu Gözdaş 2019 | Turkey | 62/F | NA | NA | 3 years | Depressive episode | Meaningless speech  Memory loss  Gait disorder | T2/FLAIR hyperintensity  foci in periventricular region | NA | Chronic progressive | Amantadine | clinical and radiological improvement. |
| Arora et al 2022 | India | 19/M | Incomplete | Exanthematous febrile illness at 7 years of age | 3 years | Schizophrenia | Apathy, personality change  Auditory and tactile hallucinations  Severe cognitive decline  Myoclonus | NA | NA | Chronic progressive | Aripiprazole | No further deterioration after 6 months |
| Sutar and Rai 2020 | India | 13/M | NA | NA | 8 months | Periodic catatonia  (Possibly catatonic schizophrenia) | Acute abnormalities in sleep cycle (circadian rhythm disturbances; insomnia)  Episodes of slowness and excitement  Poor scholastic performance  Alternating episodes of slowness and excitation  Recurrent falls  Mutism, and psychomotor slowing  Intermittently, period of psychomotor agitation and irritability  4 months later,  myoclonus and encephalopathy | NA | NA | Subacute | Lorazepam  Intrathecal interferon α2b | His oral intake and sleep improved. |
| Chakraborty et al 2021 | India | 15/M | NA | NA | 6 months | Catatonic schizophrenia | Smiling and muttering to self  Catatonia  Episodes of aggression  Attempts to run out of home  Poor self- care  Myoclonus | NA | NA | Acute fulminant | Amisulpride and oral lorazepam  olanzapine  acute  extrapyramidal side effects | Alive after more than 3 years of follow up. |
| Kaur et al 2021 | India | 17/F | NA | NA | 1 year | Schizophrenia | Behavioral changes  Social withdrawal  Irrelevant talk and laughter | NA | NA | Acute fulminant | Risperidone  No response | Became akinetic mute within few weeks |
| Jain et al 2022 | India | 18/M | NA | NA | 4 months | Somatization disorder  (Later developed  Catatonia) | Behavioral changes    Episodes of stupor  Soon  became mute and had catatonic odd posturing  Encephalopathy and myoclonus | NA | NA | Acute fulminant | Levetiracetam  Lorazepam | NA |

BFCRS score =Bush-Francis Catatonia Rating Scale; CT= computed tomography; ECT= electroconvulsive therapy; FLAIR= Fluid attenuated inversion recovery; NA= not available