



Co-Morbidity in Patients with Violence Episodes an Effort to Correlate Its Association and Prevention

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Abstract

Psychiatrists experience risks of violence in clinical settings or emergencies. Relationship between presentations at referral and diagnosis is seen where aggression was reported in various situations such as Autism Spectrum Disorder (ASD) with Borderline IQ and OCD symptoms with obesity and violent episodes; peri-ictal (post cluster attack) aggression in a patient with past history of alcohol abuse; Cannabis dependence with acute psychosis and violence with past history of conduct disorder; Tubercular meningitis (TBM) with history of multi substance abuse and disruptive behavior. Co-morbidity of above situations with violence makes it a challenging situation for doctors, nursing staff, and relatives. Guidance for handling such emergency situations and minimizing episodes of aggression is further required.

Keywords: Violence, OCD, Cannabis.

Introduction

Aggression is an innate instinct. Violence is a subtype of aggression involving non accidental physical harm by one individual towards another which can cause psychological harm, physical injury or even death. Aggressive behavior displayed by patients can appear identical despite involvement of completely different contributing factors. A biological-environmental-psychosocial interaction is responsible for same^[1]. Accurately determining aggressive patients' diagnoses is the first step in guiding pharmacologic and non pharmacologic management. Analyzing the type of

aggression as impulsive, organized, disorganized or psychotic is helpful.

Purpose /Aims

To present histories of patients in whom violence was reported both at home and in the hospital with details of treatment modalities.

Materials& Methods

Institutional permission and study settings

This study was done at Psychiatry department MMMC & H Solan with approval from ethical committee and consent of participation was

obtained from all the participants before the commencement of study. Detailed history of the patients, investigation and treatment records with Socio demographic data was taken during the time of study.

Study design

This was observational study and final objective was to find the association of violence, its trigger points and comorbidity.

A 15 years boy from VIII grade upper middle socio economic status (UMSES), nuclear family, Urban background, diagnosed earlier as having ASD with Asperger's symptoms, low average intelligence (Borderline IQ-79), presented to the Psychiatric OPD with history of occasional violent episodes directed towards parents at home. This had increased in the last 1 year and had also stopped going to the school after scoring less marks.

The patient had past history of treatment with clonidine upto 0.1 mg OD gradually increased to QID with BP monitoring. This was given for hyperactivity symptoms for around 2 yrs, till 2.5 years back.

At present the patient had difficulty in social interactions, would question anybody, and had poor handwriting and mild stammering (sometimes robotic speech). His interests were restricted and he would be preoccupied with mechanical things, cars, and was not able to play cricket. His father had facial tics. For the last 2 years patient's parents noticed that he would spend increasing time and water in the bathroom during washing hand and feet. He would also count the mugs of water used and if disturbed would repeat the process or get angry and shout. Patient also avoided outdoor activities to avoid getting dirty. His weight increased to 80 kg (Ht-167cm). He also started looking at the albums with his birthday photographs of the last few years. He would insist his parents to repeat the guest- list consisting of his classmates and gifts given by them in a particular order. He would insist on this routine daily and then gradually started repeating the process several

times a day. Whenever they would make a mistake, or refuse to repeat; he would become violent and start hitting them, sometimes crying or expressing regret later on. Parents would try different ways to reassure him and humor him which gradually increased his insistence on naming and repetition of clothing and colors worn by his friends.

His routine blood investigations including LFT, RFT, TFT and blood sugar were normal. Patient was hospitalized accompanied by parents, started on Fluoxetine increased upto 60mg/day. After an episode of violence involving therapist too, Propranolol was added and gradually increased upto 80mg/day. Clonazepam 0.5 mg SOS was used as an anxiolytic and stopped after 10days. Risperidone 1 mg BD was given initially when patient was agitated and tapered after three weeks. Behavior Therapy including Exposure Response Prevention (ERP) was initiated as a step- by- step approach along with contingency management for undesirable behaviors. Deep breathing techniques, counting from 1 to 10, and simple distraction techniques were explained. Psych education of family members was continued. A non-confrontational approach for handling difficult situations and leaving the room was suggested.

After six weeks patient showed around 30% clinical improvement and was discharged. His Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) decreased from 40 to 24. He had started going for walks and playing simple games.

A 24 year old single male, VIII grade educated, from LSES, joint family, Semi-Urban background, working as laborer, was brought to emergency by family members due to sudden emergence of violence. Patient was on Phenytoin Sodium 300 mg HS and for Generalized Tonic Clonic (GTCS) seizures since last two years. CT scan Brain showed basal ganglia calcification. His body weight was 61 Kg. He had past history of alcohol abuse till 2 years back. His last drink was one month back at a party. Patient had poor compliance problems.

A day before he had cluster of seizures, with full recovery between the four attacks, which was followed by slight disorientation, fluctuating attention and concentration, confusion, wandering behavior which subsided. Later after few hours patient was sometimes talking irrelevantly, was abusive, physically aggressive and showing inappropriate behavior towards women both at home and in emergency towards staff. There was no history of head injury or any drug toxicity or intoxication or withdrawal. Blood investigations including blood sugar, LFT, RFT, serum electrolytes, Calcium, Phosphate were normal.

He was seen by neurologist and psychiatrist for periictal (post cluster attack) psychosis which was controlled with treatment. Patient continued his anticonvulsant medication and was given Tab Clobazam 10 mg orally in Emergency. Inj. Haloperidol 5 mg IM was given.

A 21 year old single male, X grade educated, from LMSES, nuclear family, rural background, working as agriculture worker, was brought for psychiatric consultation by his mother. After his father moved out of his home seven years back, patient showed Conduct disorder problems (adolescent onset) at school. Patient was a regular Cannabis smoker using it upto six times a day for past three years. Over the last one year he would sometimes decrease or quit smoking for few days

One week before consultation patient had developed viral fever for which he took Tab Paracetamol. During this time he had almost stopped Cannabis, though he developed craving and anxiety. The next week patient restarted smoking. He also developed symptoms of decreased sleep, talking and smiling to self, irritability, suspiciousness, fearfulness, decreased personal hygiene and care. Whenever told by his mother to do something or eat or take bath he would become abusive, aggressive and broke the TV set. On one or two episodes patient also reported hearing somebody call his name and tinkling of bells (auditory hallucinations). Patient was fully oriented, afebrile, and his routine blood

investigations were normal. There was history of Bipolar disorder in patient's maternal uncle.

A diagnosis of acute psychosis with Cannabis dependence was made. Patient was admitted, started on Quetiapine in a twice daily divided dose which was increased to 300mg over five days. Tab Lorazepam 2 mg HS was given. Patient had to be restrained in the ward for the first 2-3 days with Inj. Haloperidol 5mg given IV for acute agitation including violence.

Patient showed improvement over 15 days. Counseling, psychosocial intervention, Motivational Enhancement Therapy was planned for maintaining abstinence from Cannabis. Lorazepam was tapered and stopped before discharge at three weeks. Patient was continued on Tab Quetiapine and Zolpidem for insomnia.

A 24 year old single male, XII grade educated, from LMSES, nuclear family, semi-urban background, working as mechanic, with history of multiple substance abuse including Nicotine Cannabis and alcohol was brought by his cousin to Emergency. He had history of low grade fever, decreased oral intake, irritability, disruptive behavior, occasionally shouting, being aggressive since last one week. Since 1-2 days he had started talking irrelevantly, was passing urine in clothes, had slurring of speech, and showed altered sensorium. There was no history of head injury or loss of consciousness or seizures.

Since last few months patient had started drinking more on weekends and continued smoking till one week back when his health deteriorated. He had received Anti Tubercular Treatment and completed course at 4-5 years age. There was history of occasional behavioral changes noticed during seasonal change in the last few years, details of which was not known.

Mild neck stiffness was noted. Patient was not cooperative for detailed examination. However no nystagmus or hand tremors were noted D.D. of delirium tremens/Wernicke's-Korsakoff's psychosis /TB Meningitis.

Patient had started pushing and was given Inj. Haloperidol 2.5 mg IM and repeated to control

agitation and pulling. Inj. Thiamine 100mg/day IM was given. Inj. Lorazepam 2 mg IM was kept SOS and later stopped. Fundus examination did not show any papilledema. Ryle's tube feeding and condom catheter was advised by Physician. Patient's mother was contacted on phone and she reported that he had stopped taking Anti Tubercular Treatment (ATT) for Pulmonary Koch's around 2.5 months previously after two months of treatment.

CECT Brain showed features of TB Meningitis with Hydrocephalus. Subsequently previous CT Chest and lung X-Ray reports were brought which supported Pulmonary Koch's. ATT was started with Inj Streptomycin 0.75g IM OD and oral four drug regiment with Adjunctive treatment of Inj. Corticosteroids and Inj Mannitol. Temp rose to 1020F. LP was advised by physician, CSF picture showed TB Meningitis. Haloperidol was stopped. Patient improved after three month hospital stay. Psycho education was done and patient was advised for regular follow-up.

Discussion

Clinical profile of patients presented shows that risk of violence exists in hospital settings providing mental health care.

The criteria for Asperger's disorder on the domains "qualitative impairment in social interaction" and "restricted, repetitive and stereotyped pattern of behavior, interests and activities" are identical to those for autistic disorder. However, there are no significant delays in early language around the age 1-2 years or significant delay in cognitive development. Marked clumsiness is a common feature [2].

There is overlap in pathophysiology of ASD and OCD. Individuals with ASD had two times higher risk of later diagnosis of OCD whereas individuals diagnosed with OCD displayed a nearly fourfold higher risk of diagnosis with ASD- less severe type, without any mental disability, later on in life [3].

A prior diagnosis of ASD increased risk for OCD with predominantly obsession thoughts or

predominantly compulsive acts. Though the stereotyped behaviors of ASD might resemble compulsive behaviors of OCD, the latter is ego-dystonic and the former may be pleasurable. OCD is a neuropsychiatric disorder that fits into a spectrum construct especially in children with neurodevelopment disorders.

Risk to develop Asperger's syndrome was higher among offspring of parents with OCD. Rage attacks are also known in pediatric OCD with Tics. In contrast to other Anxiety disorders, patients with OCD displayed increased gray mater volume in caudate nuclei. Structural changes in this limbic area are also described in ASD^[4].

In ASD with insistence on sameness subtype, there is a risk of hitting others and its represented across all intelligence levels. Also violent individuals with ASD are often male and diagnosed with Asperger's syndrome⁴. However elevated risk has been reported between Attention Deficit Hyperactivity Disorder, Tic disorders for subsequent violent attacks later in life^[5].

There also appears to be a relationship between ASD and Schizotypal personality traits in adolescence^[6]. In other situations, individuals with ASD have an elevated risk of comorbid psychosis which is strongly associated with violence^[7].

SSRI including Fluoxetine (40-80mg) constitutes treatment of choice for OCD. Not many medications are truly effective in the treatment of ASD although antidepressants might be of value^[8].

Propranolol in high doses has been successfully used in treatment of rage and violent behavior in patients with chronic brain syndromes^[9] and in intermittent explosive disorder^[10].

Also contingency management with voucher based incentives helped decrease violent behaviors^[11].

Apart from the rather rare ictal psychotic events, such as non convulsive status epilepticus, modern epileptic psychoses have been categorized into three main types; chronic and acute interictal psychoses and postictal psychosis. In 1953, Landolt stressed the seesaw relationship between

epileptic discharges on EEG and psychosis, and proposed the concept of forced normalization, which led to the concept of alternative psychosis proposed by Tellenbach^[11].

Logsdailand Toone^[12] have described postictal psychosis as an episode of confusion or psychosis manifested immediately upon a seizure or emerged within a week with a minimum duration of 24 hours till upto 3 months. In 86% of the cases there was a clear history of an increase in generalize seizure frequency prior to the onset of the psychosis usually in a cluster. Epileptic seizures usually last for few seconds or minutes. After GTCS there may be confusion lasting for many minutes but rarely more than a hour. Flurries of epileptic attacks may themselves cause an organic psychosis lasting upto few days. Psychotic episodes with a psychiatric rather than organic basis have a complex nature with associated thought disorder.

Co-morbidity with psychiatric and medical disorders in individuals with substance abuse disorders is well known^[13]. Psychiatric symptoms in context of substance use may be caused by the biologic effects, psychosocial consequences, underlying personality traits or the presence of co-existing psychiatric disorders^[14]. Drug and alcohol dependent individuals are a vulnerable and underserved population with significant medical illness burden. Substance abuse further impairs judgment and increases occurrences of aggression. Research indicates that cessation of Cannabis is associated with anxiety, depression, irritability, decreased sleep, physical symptoms and aggressive behavior with a strong activation of brain stress system. Delta-9- THC binds to endocannabinoid receptors. Cannabis promotes release of dopamine in the nucleus accumbens which helps as a reinforcer.

Heavy use of Cannabis is associated with poor education attainment, crime and further drug use. It's possible that observed associations result from convergent risks and common predisposing factors, as much as direct effect. However, link between Cannabis use and risk of psychotic

disorder has been reported in many prospective, longitudinal studies^[15].

Quetiapine is an atypical antipsychotic effective for the treatment of schizophrenia, bipolar disorder and as an adjunctive treatment for major depressive disorder. It's also well matched for the symptoms of cannabis withdrawal at doses of 300 mg. The low and transient level of dopamine D2 receptor affinity of Quetiapine combined with 5-HT2A antagonism may be beneficial for stabilizing dysregulation of the mesostriatal dopaminergic pathway "reward circuit"^[16-17].

Prevalence of substance abuse disorders among psychiatric patients is reported from 20-50%. The most frequent form appears to be alcohol followed by sedatives, Cannabis, stimulants and opiates in EU. In general drugs and alcohol abuse can produce psycho toxic effects that may lead to violence and psychotic like symptoms^[18].

Rate of Tuberculosis world over has increased during the past 15 years, and is second only to HIV/AIDS as the greatest killer worldwide due to single infectious agent. The prevalence of pulmonary tuberculosis is high in Indian population.

Hydrocephalus is one of the commonest complications of TB Meningitis which is a sub acute disease and most common form of CNS tuberculosis. Communicating type of hydrocephalus is more common than obstructive type. The management of hydrocephalus can include medical (ATT) therapy with dehydrating agents and steroids for patients in good grades^[19].

Conclusion

Association of brain related and psychiatric disorders with aggression are known. Awareness and assessment of situations leading to recognizing and responding appropriately to aggression leads to minimizing risks and stress involved and addresses better patient care in tertiary hospitals with multispecialty facilities.

Sometimes people with mental illness make absconding attempts or show threatening behavior if not given parole or are asked to take medications

or indulge in substance use or have inter patient or family conflict in hospital settings.

Hence patient factors leading to aggressiveness must be considered to formulate an appropriate treatment plan. Specific medications have shown varied results with different patient population. There is no single approach that will be effective for every patient.

Various measures are taken like restraining, seclusion, de-escalation of dispute and intervening in crisis situations, inject able medication and rarely electroconvulsive therapy.

Also overcrowding, noisy environment, lack of adequate privacy, sharp or heavy instruments in open or inadequate staffing should be avoided. Care should be taken to identify trigger or stimuli that are likely to provoke attacks and try to remove them. Family therapy is important along with proper regards to safety, security, dignity and personal space of patient^[20].

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