Dexamethasone induced psychosis presenting with catatonic features

Catatonia is a complex condition characterized by the presence of various motor signs and symptoms. It remains a poorly understood, poorly studied, and poorly recognized syndrome.[1] Catatonic features are seen in a range of psychiatric conditions including psychotic disorders, mood disorders, conversion disorder and dementia.[2] Studies have also identified over 35 medical and neurological illnesses associated with catatonia including corticosteroids exposure, central nervous system (CNS) structural damage, encephalitis and other CNS infections, seizures, metabolic disturbances, phencyclidine exposure, neuroleptic exposure, lupus cerebritis, disulfuram, porphyria, and other conditions. These medical causes of catatonia account for between 20% to 30% of such cases.[3]

Whilst various authors have reported several cases of psychiatric illnesses such as mood disorders, psychotic disorders, delirium and anxiety disorders due to use of corticosteroids, there are however, few reported cases of catatonia due to steroids. A literature search revealed very few articles written on catatonia due to steroids. We report a case of apparent dexamethasone induced psychosis presenting with features of catatonia.

B.O, a 20year old female undergraduate in Nigeria, was brought to the hospital by her elder sister (who was the informant). She started using dexamethasone without prescription six months prior to presentation because she wanted to increase her body weight. She was introduced to the drug by the elder sister who was also using it for the same purpose. She initially started with a dose of 4mg daily (an unused sachet of the drug was brought to the hospital by the informant) but later increased this to 4mg twice daily about two months before presentation. Her reason for the increment was that she had observed that the drug causes insomnia and since her exams were approaching, she felt the need to take something that would keep her awake at night to study.

About two days before presentation, she was observed by the elder sister to have been staying awake almost throughout the night and was also behaving abnormally, for example trying to strip herself naked in public. She was also observed to be withdrawn and refusing to talk generally but at times murmuring the same words repeatedly. Based on these features, she was brought to the hospital. Detailed history from the informant did not reveal any abnormalities in the patient before she commenced the drugs and there was also no family history of any psychiatric illness. On admission, she was observed to be uncooperative as she refused to obey any instruction. She was also mute and maintained abnormal postures. Physical examination showed she had high grade fever, muscular rigidity (though some of these features may be suggestive of neuroleptic malignant syndrome, this patient however had no previous exposure to antipsychotics). She also had a copious whitish vaginal discharge and widespread hypo pigmented macular lesions on her body. Various laboratory tests done including a full blood count, electrolytes, urea and creatinine and retroviral screening did not reveal any abnormalities. Cortisol levels could however not be done due to unavailability of facilities to do this.

She was commenced on a parenteral benzodiazepine (diazepam) to which she responded favourably. She was later observed to be speaking irrelevantly with auditory and visual hallucinations, whilst in clear consciousness. Based on these psychotic symptoms, she was commenced on risperidone. She responded favourably to this and was discharged after two weeks on the ward, mentally stable with no evidence of thought disorder or hallucinations.

This case demonstrates that dexamethasone can precipitate psychotic symptoms with catatonic features (catatonic stupor) in previously well individuals. The prominent catatonic features seen in this patient were mutism, posturing, withdrawal, rigidity, immobility (assessed using the 14-item Bush-Francis catatonia screening instrument[4]).The evidence suggesting causation is that the patient was functioning well even while using the dexamethasone at the initial dose but shortly after she increased the dose the psychiatric complications began. Such causation has not been noted in the literature, with only one of such publications reporting a case of prednisolone induced mood disorder with catatonic features.[5]

Catatonia has been described by various authors as a"common functional final pathway" in expression of severe neuropsychiatric illness.[6] Based on this, it is probable that the catatonia occurring due to use of corticosteroids is a severe manifestation of a possible dexamethasone induced psychotic disorder in this patient. Probable theories for this causation include:

- The report by various researchers such as Wolkowitz that high levels of glucocorticoids cause an increase in dopamine levels which consequently leads to various psychiatric consequences.[7] The effect of these glucocorticoids have been shown to be mediated by the

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presence of glucocorticoid receptors (GR) in the brain which mediate feed back action of steroids.[8]

- That in catatonic patients, as Northoff hypothesizes, there is modulation of cortical and sub cortical structures due to various conditions. The resultant hyperdopaminergic mesolimbic system may attempt a restitutive down regulation of dopamine to ward off psychosis, thus affecting other systems and producing motor symptoms seen in catatonia via the nigrostriatal pathway.[9] Hence, corticosteroids which have been known to affect cortical and sub cortical structures can invariably cause catatonic features.

The catatonic features observed in this patient were managed successfully with a parenteral benzodiazepine while the psychotic symptoms were managed with risperidone. The choice of benzodiazepines was due to the unavailability of ECT. Benzodiazepines have also been used successfully in the management of catatonia associated with a range of disorders.[10] Also, the choice of risperidone in the management of psychosis due to corticosteroids has been reported.[11]

This case report illustrates that psychotic symptoms with catatonic features can be a complication of corticosteroid use with parenteral benzodiazepines and oral antipsychotics beneficial in the management of such presentations.

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Tracking the legal status of a cohort of inpatients on discharge from a 72-hour assessment unit

Mental Health Review Boards (MHRBs) are regarded as the watch dog structures to protect the human rights of mental health care users and to generally uphold the principles of the Mental Health Care Act (MHCA).[1] According to the MHCA, MHRB's have to: consider assisted and involuntary admissions; consider ongoing admission (more frequent periodical reports); respond to appeals; consider transfer of patients to maximum security facilities (including state patients); and consider periodic reports of mentally ill prisoners. Procedures of admission and discharge are described by the MHCA for voluntary users (Section 25, Chapter 5), for whom no legal application is required. Non-voluntary users include assisted users (Sections 26 to 31), with an impaired capacity to make an informed decision about own mental health care due to mental illness, and involuntary users (Sections 33 to 38) who, in addition, also refuse treatment.

Helen Joseph Hospital (HJH) in Auckland Park (Johannesburg, South Africa) in southern Gauteng, is a 480-bed regional hospital in an urban setting. The psychiatric unit of the hospital is designated as a 72-hour assessment unit. It is a 30-bed acute adult unit providing inpatient, outpatient, and consultation/liaison services. After initial assessment and

treatment, service users are transferred –as required - to other specialized units of The Tara H. Moross Center (TARA) and Sterkfontein (SFH) hospitals, for ongoing care. Alternatively, users are discharged for follow-up at HJH-outpatients clinic (HJH-OPD) and the community psychiatric services in southern Gauteng (CPSG), or for longer term placement at a Life Health Esidimeni facility (LHE). Three health districts exist in the southern Gauteng area (Johannesburg Metro, Ekurhuleni - East Rand, West Rand), with two MHRBs for the region.

It has been observed in previous studies, that a number of users were re-admitted to the HJH psychiatric unit in a ''revolving door'' pattern.[2,3] Following a period of 72-hour assessment, most mental health care users were referred to SFH as involuntary users according to Section 34. Referrals to TARA were usually assisted or voluntary users, while those to LHE were either assisted or involuntary. Most users referred to CPSG or HJH-OPD, were voluntary users. It became clear though that in order to gain a meaningful perspective on the outcome of psychiatric services rendered at HJH, it would be necessary to track the subsequent progress of cohorts of inpatient users after discharge.

The purpose of this brief study was to track users that were discharged from the psychiatric unit, in order to assess their progress and establish their legal status after 12 and 24 months. The current data relates to the first (2007) cohort of patients referred from HJH to TARA, SFH and CPSG.

A retrospective clinical record review was undertaken of the legal status of mental health care users discharged from HJH and referred to SFH, TARA, LHE, HJH-OPD and CPSG, identifying cohorts of discharged users for subsequent years. These cohorts were tracked to assess their progress 12 and 24 months later, also using the routine data on admissions and discharges from the facilities/services that subsequently received these users. The data used consisted of the required completed forms, including MHCA Forms 1, 4, 5, 7 and 6 for admissions, and MHCA Forms 8, 11 and 3 on discharge. Data on the admissions and discharges from HJH and from the different facilities/services was compared with information from the MHRBs on the referral of these users.

Permission to do this study was obtained from: the relevant chief executive officers of HJH, TARA, SFH and LHE; the different district managers; and the chairs of the MHRB's. Ethical clearance for this study was obtained from the Human Research Ethics Committee of the University of the Witwatersrand.

Data from community psychiatric services was not available, as only the overall total number of mental health care users seen at district clinics is included in routine statistics of the districts. The information on users' individual clinical management, including their legal status, was not readably available in a format that could be used in a review. The data of the MHRBs for regions A and B was also not available in a format to correlate and track the movement of users in the system from one facility to the other.

The total number in the cohort of HJH care users for 2007 was 565. Of these, the legal status of 2% (n=9) on admission was not specified, while it was not specified for 30.4% (n=172) on discharge. Referrals on discharge from HJH included: 27% (n=139) to HJH-OPD (all voluntary); 30% (n=157) to CPSG (voluntary); 9% (n=51) to TARA; and 16% (n=98) to SFH. The total number of users whose legal status was specified on discharge from HJH was: voluntary (n=251); assisted (n=55); and involuntary (n=87). Of the 9% referred to TARA, the legal status of 55% (n=28) of users were subsequently not specified on discharge from TARA, and of the 16% referred to SFH, the legal status of 44% (n=39) users were subsequently not specified on discharge from SFH.

This brief review showed that the legal status of a significant proportion of users' admitted to, or discharged from HJH during 2007, and subsequently referred to TARA and SFH, was not specified. The MHRBs in this case study seemed to have inadequate capacity to effectively track the transfer and changing legal status of users as they moved through the referral system. Data from the MHRBs database represented record entries and not users, in other words, several unrelated records may exist for the same user, or no record may exist for others. No overview of the total patients in any facility at a specific time was routinely obtained by the MHRBs, with the result that no conclusions could be drawn about the completeness of their records. Although there may have been an apparent underreporting of admissions to HJH during 2007, or perhaps forms may have been lost, there also seems to have been no follow-up action about this matter from the MHRBs.

It can therefore be assumed that responses by MHRB's may often be irrelevant, inappropriate and out-dated, based on the incomplete information that they may receive. This results in red-tape and, in fact, no consistent ''legalization'' of admissions through the timely return of instructions by means of the MHCA Form 14. This inadequate oversight of admission procedures and of the changing legal status of users is indicative of the poor capacity of the MHRB's to discover human rights or other violations.

It can be recommended that while adequate clinical assessments and reports in support of applications for admission should continue to be ensured by clinicians, the quality of referral procedures and administrative record keeping must dramatically be improved. An effective tracking system, without which human rights of mental health care users will continue to be compromised, must be ensured. The necessary resources, capacity and infrastructure must be provided for this purpose.

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