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Case Report

Unrecognized and Untreated: Refeeding Syndrome Complicating Treatment of Schizophrenia

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Abstract

This case report was considered to present refeeding syndrome and the occurrence of schizophrenia could be due to eating disorder. It is about a 40-year-old female patient, former employee at a local bank, ex-principal at a local school, and an NGO worker with a past psychiatric history of psychotic episodes previously treated with multiple antipsychotics along with suspected non-compliance. The patient had not been eating for several weeks, and her father described her as severely malnourished. She exhibited severe paranoid delusions, including a fear that people were trying to harm her. She would particularly refuse any male who tried to approach her. She was suffering from fatigue, muscle weakness, confusion, and fluid retention. Her bloodwork revealed low serum electrolytes and slightly elevated liver function tests. Careful electrolyte repletion and slow reintroduction of nutrition were adopted to treat this patient. Chronic illnesses like schizophrenia could be a risk for eating disorders. Phenomenon like refeeding syndrome could be seen and should be diagnosed.

Keywords: Refeeding Syndrome, Schizophrenia, Untreated, Unrecognised

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Introduction

Refeeding syndrome (RS) is a seen occurrence in chronic medical illnesses and can have a severe impact on the mortality aspects. In April 2020, the American Society for Parenteral and Enteral Nutrition (ASPEN) published a consensus paper in which the refeeding syndrome was defined as a >10% decrease in the serum levels of at least one amongst phosphate, potassium, and magnesium, associated or not with organ dysfunction resulting from a decrease in any of these or due to thiamine deficiency, occurring within 5 days of reinitiating energy provision. Historical definition of RS involves various changes in metabolism and electrolytes resulting from excessive caloric intake after a course of insufficient caloric intake.1 Refeeding is linked to complications in different systems including the cardiovascular, haematological, skeletal and nervous system.

Schizophrenia is also one of the severest chronic mental illnesses. Previously, it was common to see such patients but with advancement of antipsychotics their numbers have reduced. Schizophrenia is known to have vulnerability with eating disorders due to abnormalities of the HPA axis. Chronic psychotic patients are in poor hygiene, poor interpersonal relationships and out of reality. For a number of days, they stop eating and frequently feel paranoid under delusions against the family and the world.

Shifts in electrolyte and fluid balance in malnourished patients upon recommencement of feeding, both enterally and parenterally[2] causes hypokalaemia, hypomagnesemia, and thiamine deficiency, in addition to hypophosphatemia, which is the hallmark of this condition and is associated with morbidity and mortality[3]. Some reports have suggested that personality disorders contribute to a higher mortality rate than that of healthy individuals.[4]

Case Presentation

This case is about a 40-year-old female, former employee at a local bank, ex-principal at a local school, and an NGO worker with past psychiatric history of psychotic episodes previously treated with multiple antipsychotics along with suspected non-compliance. She presented

with psychotic symptoms, paranoid delusions, malnourishment, and refusal to eat for several weeks. Her mother also suffers from psychosis but is not on any medication.

She was brought to the emergency department by her elderly father and mother, both of whom were visibly distressed. The patient had not been eating for several weeks, and her father described her as severely malnourished. She presented with disorganised behaviour, shouting uncontrollably, and refusing to allow anyone to approach her. She was wearing shabby clothes, and her hair was matted, reflecting poor self-care. She exhibited severe paranoid delusions, including a fear that people were trying to harm her. She would particularly refuse any male who tried to approach her.

On a prior visit, the patient complained of unexplained pain in her chest and muscles, raising concerns about potential extrapyramidal symptoms (EPS) from previous antipsychotic treatments. The past records did show a treatment from a psychiatric unit and consisted of depot antipsychotics. However, it was considered appropriate to investigate her symptoms carrying out a detailed physical and medical assessment. Due to a history of poor responses to antipsychotic treatment and potential EPS sensitivity, a decision was made to start Clozapine at a dose of 100-200 mg. Clozapine was chosen based on her extensive treatment history and concerns about EPS.

Initial Examination

Mental State: Agitated, aggressive, shouting, paranoid, and refusing examination.

Appearance: Dishevelled, poor hygiene, severely malnourished, uncooperative.

Vitals: Stable but borderline low blood pressure 90/60 mmHg and tachycardia (102 bpm).

Management in Emergency: The patient was administered Clopixol Acuphase (zuclopenthixol acetate) as an emergency intervention due to her acute agitation and psychosis. She was later transitioned to Clopixol Depot (zuclopenthixol decanoate) for maintenance.

In Pakistan only atypical depot injections are available. From a previous failed trial of clozapine on account of noncompliance, antipsychotics were chosen with strict supervision for EPS and their management.

Clinical Course During Admission: Following the administration of Clozapine, the patient initially showed signs of improvement. Her agitation reduced, and she started engaging more, though her paranoid delusions persisted. During her period of partial recovery, the patient exhibited symptoms consistent with refeeding syndrome after reintroduction of food following her prolonged malnutrition. Symptoms of refeeding syndrome included fatigue, muscle weakness, confusion, fluid retention, electrolyte disturbances (including hypophosphatemia and hypokalaemia)

Laboratory Findings during Refeeding Syndrome:

Serum phosphate: 1.5 mg/dL (low)

Serum potassium: 2.9 mEq/L (low)

Serum magnesium: 1.2 mg/dL (low)

Serum calcium: 7.9 mg/dL (low)

Liver function tests: Mildly elevated

Electrocardiogram (ECG): Normal sinus rhythm, borderline QTc prolongation

These findings were consistent with refeeding syndrome, and appropriate management included careful electrolyte repletion and slow reintroduction of nutrition.

Psychosocial History: The patient had an impressive occupational history, previously holding jobs as a bank employee, a school principal, and working with local NGOs. However, she also held strong religious beliefs, against the banking interest based system. These thoughts intensified during her psychotic episodes, becoming central to her delusional framework. Her delusions about religious and financial matters appeared to have triggered some of her psychotic symptoms. Additionally, during her earlier recovery phase, the patient became involved in an online relationship. She expressed a desire to marry, but due to the chaotic family environment, she sought a partner online. Unfortunately, she was scammed, losing some of her material belongings to the person she met online. This episode further worsened her paranoia and mistrust, contributing to her psychotic relapse.

Non-Compliance and Deterioration: The patient's illness previously showed response to medications but always failed finally due to noncompliance. This was also increased as the family believed in spiritual treatments as well. Very often they would recommend stopping the medications. So patient factors as well as family factors consistently interrupted the treatment process.

Management Plan:

1. This depot trial was termed successful. No EPS were observed. Importance of long-term treatment was counselled. Family was counselled to abstain from any spiritual interventions and restrict her to home treatment. As the patient did not approve of such interventions, it often leads to High Expressed Emotion.
2. Address the patient's nutritional status to prevent refeeding complications. Replace probable thiamine deficiency as well.
3. Engage the family in psychoeducation, emphasising the importance of adherence to medications.

4. Involve a multidisciplinary team, including a dietitian, social worker, and psychiatric nurse, to support the patient's recovery.
5. Consider long-acting injectable antipsychotic options if non-compliance persists.
6. Psychotherapy to explore delusions and religious views in a supportive environment once the psychosis is stabilised.

Conclusion

Chronic illnesses like schizophrenia could be at risk for eating disorders. Phenomenon like refeeding syndrome could be seen and should be diagnosed. Especially when a patient is being rehabilitated in a medical or psychiatric unit, as this will reduce mortality.

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