Neuroleptic Psychological and Cognitive Adverse Drug Reactions

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Neuroleptics and Antipsychotics

The terms ‘antipsychotic’ and ‘neuroleptic’ are used interchangeably in research papers, although in clinical guidelines and practice, ‘antipsychotic’ is the most frequently used.

Prior to these terms these medications were known as ‘Major Tranquillisers’. The term ‘neuroleptic’ was accepted in 1955 and eventually became known as ‘antipsychotic’ by drug companies who used it as a marketing ploy to influence doctors and patients to believe that the drug’s specific action was to treat and prevent psychosis. However this ploy puts considerable distance from numerous other ‘antipsychotic’ actions and the hard reality of what the drug does to the brain.

Neuroleptic literally means to ‘seize the nerve’, a chilling scenario. For this reason, throughout this document the word ‘Neuroleptic’ will be used in place of ‘Antipsychotic.’

Neuroleptic Adverse Reactions and Pharmacogenetics

Neuroleptic Adverse Drug Reactions (**ADR**) are caused by the way the drugs act on neurons and neurotransmitters in the brain and body and are therefore **IATROGENIC.** i.e. neuroleptic induced.

ADR are influenced by the genetically predetermined rate of metabolism known as **Pharmacogenetics.** When people have the in-born slower rates of metabolism i.e. **Poor Metaboliser** or an **Intermediate Metaboliser Genotype** profiles, neuro-toxicity increases which is associated with the severity of **ADR**.[1 & 2]

All people who take neuroleptics will be affected by various **ADR**, either within a short or longer period of time.

60% of patients experience severe/very severe side effects.[3]

Adverse Drug Reactions and Side Effects

In both patient and professional literature, to explain the 'undesired effects of medication', pharmaceutical companies commonly use the term 'side effects'. Because the term both minimises and obscures the cause of 'side effects', the term is replaced by **Adverse Drug Reactions** (**ADR**) in this document.

Many neuroleptic psychological **ADR** are not found in mainstream literature. In order to readdress this situation, this document provides up to date and concise **ADR** information for mental health and social care practitioners.

Psychological and Cognitive Health

Optimal psychological and cognitive health is determined in the brain by various neurotransmitters that mediate the functions of cognition, emotion and the ability to assimilate new experience in daily life.

Neurotransmitters also control sleep patterns and enable flight and fight responses in the face of danger.[4]

The various neurotransmitters include dopamine, serotonin, noradrenaline and acetylcholine; it is the balance between all of the neurotransmitters that is important and this balance is in constant flux to maintain long term stability.

To understand the importance of the roles played by neurotransmitters, it is necessary to understand the individual neurotransmitter functions.

Neuroleptics and Neurotransmitters

Neuroleptic medication disrupts dopamine neurotransmitters and depletes dopamine. Because the level of dopamine is artificially lowered, all the other neurotransmitters - serotonin, adrenaline, noradrenaline and acetylcholine - are relatively affected and stability is lost.

Additionally atypical medications directly target serotonin, adrenaline, nor adrenaline and acetylcholine neurotransmitters further compounding the situation.

Since ***all*** these neurotransmitters play important roles in psychological and cognitive well being, it is inevitable unnatural interference will induce psychological and cognitive **ADR** because every function will be negatively affected.

Dopamine Neurotransmitter Functions

Dopamine plays important roles in the following psychological and cognitive functions.

- Cognition (thinking, attentions, learning and memory)
- Affect (feeling, mood and emotion)
- Sensation of pleasure
- Sexual desire
- Behaviour (compulsions, stereotypies, addictions and desires) [5]
- Motivation
- Attachment
- Altruism (unselfish concern for others)
- Positive reinforcement (reward)
- Focusing, and problem solving [4 & 6]

Noradrenaline Neurotransmitter Functions

Noradrenaline plays important roles in the following psychological and cognitive functions:

- Levels of arousal
- Fight or flight
- Concentration[7]
- Sustained focused attention.[7]
- Emotions
- Forming memories and learning[4]

Optimal levels of noradrenaline provide clear thinking and alertness.[7]

Serotonin and Acetylcholine Neurotransmitter Functions

Serotonin mediates:

- Alertness[4]
- Memory
- Mood and emotions e.g. anxiety & depression
- Wakefulness and sleep
- Pain perception[8]

Acetylcholine helps concentration and alertness at optimal levels.[7]

- Memory
- Thought and learning processes
- Arousal
- Motivation
- Emotion[4]

Effects of Neurotransmitter Depletion

Dopamine depletion: causes lack of pleasure, inability to feel love, lack of remorse about actions, distractibility, apathy, inability to reason or solve problems and an inability to filter out distractions and to focus.[7]

Noradrenaline depletion: associated with lack of drive and initiative, inability to form memories, low levels of arousal and attention.

Effects of Neurotransmitter Disruption

Serotonin disruption: can cause nervousness/anxiety, worry, negativity/pessimism, irritability, impatience, feeling edgy, self destructive, low self esteem/confidence, repetitive thoughts (analysis paralysis), fears and phobias, masochistic or suicidal thoughts/plans. Hypomania, hallucinations, agitation and mental confusion, change of personality, aggression and violence.[9]

Acetylcholine disruption: is associated with irritability, anger, aggression and violence.[7, 10 & 11]

Neuroleptic Psychological and Cognitive Adverse Reactions

Neuroleptic psychological and cognitive **ADR** are **iatrogenic** due to neuroleptic interference with the brain's neurons and neurotransmitters.

All people who take neuroleptics will be prone to psychological and cognitive **ADR**, either within a short or longer time period and with varying degrees of intensity.

Ultimately neuroleptics cause the slow progressive deterioration in psychological and cognitive health.

Neuroleptic Psychological and Cognitive Adverse Reactions

- **Neuroleptic Induced Deficit Syndrome (NIDS)**
- **Dementia, Alzheimer's Disease**
- **Anosognosia**
- **Dysphoria**
- **Depression**
- **Akathisia (Inner Restlessness)**
- **Suicide**
- **Violence and Aggression**
- **Super Sensitivity Psychosis**
- **Tardive Psychosis, Rebound Psychosis**
- **Withdrawal and Dependency**

Neuroleptic Induced Deficit Syndrome (NIDS)

The chart below makes a comparison of the negative symptoms of schizophrenia and neuroleptic **ADR**.
They are very similar, indicating that neuroleptic disruption of dopamine, noradrenaline and serotonin, results in and is responsible for cognitive and psychological deterioration.[12 & 13]

Neuroleptic Adverse Effect	**"Schizophrenia" Negative Symptoms**
Drowsiness	Attentional Impairment
Apathy & Lack of energy	Apathy & Lack of purpose
Flat affect	Affective blunting & restrictive affect
Lack of feeling, 'dead inside'	Reduced emotional range
Reduced drive & initiative	Reduced sociality & curiosity

Ref 12

Dementia

- Dementia is associated with Tardive Dyskinesia (TD).
- Subjects with high TD scores had memory impairment.[14]
- In America, there are litigations relating to patients who have been seriously affected by TD and the associated intellectual impairments.
- In dementia, structural changes occur in the frontal lobes of the brain.

Neuroleptics, Alzheimer's Disease and Progressive Brain Damage

Anatomical brain changes in patients taking neuroleptics are similar to brain changes in patients with a diagnosis of Alzheimer's Disease.[15]

There was both a higher prevalence and greater intensity of plaque and tangle pathology among the schizophrenic subgroup when compared with age matched controls.[16 & 10]

A neuroimaging study of humans discovered that at the end of thirty months, patients displayed significant loss of brain volume (4-9%) in the frontal and temporal lobes.[17] The change was associated with unimpressive changes in target symptoms (inability to experience pleasure, restricted affect, limited speech) and significant deteriorations in cognitive functions (verbal memory, spatial memory, abstraction).[10]

Anosognosia

- Similar to being intoxicated with alcohol, with emotional disinhibition.
- Being unaware anything is amiss with personal behaviour.
- To observers it is obvious that personal evaluation of behaviour is impaired.[18]

Dysphoria

- Extremely unpleasant and distressing subjective change in mood.
- Severe anxiety, agitation, depression and irritability.
- Impairs psychological therapy.[19]

Depression

- Severe depression occurs in patients on depot neuroleptic medication.[20]

Akathisia

Symptoms:

- Perpetual psychomotor agitation or inner restlessness.
- Inability of the patient to keep still.
- 47% of mental health patients experience akathisia, dysphoria and emotional flattening.[21]
- Akathisia is associated with anxiety, suicide,[22 & 23] Violence[24 & 25] and murder.[26]

Suicide

- Suicide rates are up to 50% higher in neuroleptically treated patients.[27]
- Intolerable feelings of akathisia together with the distressing mood changes of dysphoria could cause suicidal ideation.[28]
- 60% of completed suicides were taking psychotropic drugs.[23]

The suicide rate for patients with schizophrenia is 20-50 times greater than the suicide rate of the general population.[29]

Almost 50% of people with schizophrenia will attempt suicide in their lifetime.[30]

A Service User Statement: Suicide is a side effect.

"I believe that since drugs were first introduced for paranoid schizophrenia in 1952 some patients have committed suicide, not because of the illness but because of the side effects, in particular depression. I was, and still am, absolutely staggered that I was given no warning or understanding regarding the depression many, but not all, of the drugs prescribed for schizophrenia can cause. How could a person be locked up and have chemicals forced into their bloodstream which made them suicidal?" [31]

Violence and Aggression

Many severely mentally ill people commit violent crimes,[32] and the most common reason for Psychiatric Intensive Care Unit admissions is aggression management,[33] where 58% of incidents were classified as serious.[34]

Neuroleptic disruption of both **Serotonin** and **Acetylcholine** can cause an increase in irritability, aggression and violence.[7, 9 & 10]

This is particularly likely if patients are genetically unable to metabolise neuroleptic medications efficiently and suffer the toxic consequences…[11]

Super Sensitivity Psychosis (SSP)

- Because neuroleptic drugs block dopamine receptors, the brain then adapts by increasing the number of dopamine receptors by 30%.
- The extra dopamine receptors are hypersensitive to minute traces of dopamine remaining in the synapses and the patient eventually experiences a psychosis known as…

SUPER SENSITIVITY PSYCHOSIS [35]

- 58% of patients 'relapse' on neuroleptic medication because of **SSP.** [36, 37, 38 & 39]

"TREATMENT" WITH NEUROLEPTIC DRUGS INDUCES PSYCHOSIS.

Tardive Psychosis, Rebound Psychosis and Withdrawal

Tardive Psychosis and Rebound Psychosis are different terms for psychosis experienced during and following psychotropic drug withdrawal.

Patients who experience a psychosis when withdrawing from psychotropic drugs are viewed by psychiatrists as having a ‘relapse’. The “schizophrenia” is perceived as worsening and considered proof that the “schizophrenic” patient needs antipsychotic drugs.

However in psychotropic drug withdrawal the brain’s nerve ending receptors are adjusting to the reduction of the toxic chemicals in the synapse and a tardive/rebound psychosis ensues.

60%-80% of patients on depot injections 'relapse' if the medication is discontinued.[40]

Withdrawal, Discontinuation Syndrome and Neuroleptic Dependency

Following the withdrawal of Chlorpromazine - a neuroleptic - for TB treatment, patients experienced withdrawal symptoms. These symptoms dissipated when the neuroleptic was re-commenced, clearly indicating the evidence for Discontinuation Syndrome[41] in association with neuroleptic dependency.

DSM IV[42] Dependency Criteria is written by drug companies and includes:

1. Tolerance - medication increased to stable level
2. Withdrawal - creating physiological states
3. Progressive neglect of interests because of psychoactive substance used.

This information obscures the fact that:

Psychotropic Drugs are Psychoactive Substances

Psychoactive Substances and Neuroleptic Medications

All neuroleptics are psychoactive substances since they cross the blood brain barrier, act primarily on the Central Nervous System where they affect brain function resulting in changes in perception, mood, consciousness, cognition and behaviour.[43]

Neuroleptic drugs create:

1. Tolerance - increased medication to 'effect' a stable level due to **SSP**
2. Withdrawal - creates physiological states: nausea, vomiting, diarrhoea, sweating, runny nose and involuntary movement disorders[44]
3. Progressive neglect of interests due to **NIDS** and other psychological **ADR**.

This overt review is more informative to doctors as it addresses the fact:

Neuroleptic Medications cause Dependency

Neuroleptic drugs may be Unnecessary or Contra Indicated

"…A number of clinicians have suggested that the period immediately following an acute schizophrenic break is critical and that how a patient is treated during this time is quite important… the acute schizophrenic needs to retain his sensitivity and awareness and must have full access to all his psychological resources. Phenothiazines (neuroleptics) by reducing neurological sensitivity, may interfere with these problem solving, re-integrative responses." [45]

Neuroleptic treatment unjustly deprives patients of their feelings, emotions and cognitive functioning, so preventing them from fulfilling their own destiny.

Neuroleptic psychological and cognitive **ADR** cause additional trauma to the original psychosis, whether induced by general medications, antidepressants or psychological trauma.

Ethics

Through out history, many treatments for the ‘insane’ were physically and psychologically abusive and because of their disturbing nature and visibility would be perceived as cruel today.

These treatments were thought to be necessary and appropriate by prominent people who held powerful positions of authority.[46]

Today, despite the relative invisibility and potential side effects of neuroleptic treatment, that is effectively, a chemical lobotomy, remains just as cruel.

Today, these chemical lobotomy treatments are condoned and validated by current UK Key Opinion Leaders. They too hold powerful positions of authority, and also believe they are necessary, appropriate and ‘scientific’.

Because of the action of ‘Neuroleptic science’, for the vast majority of patients, this results in stigma, social isolation, physical and emotional debilitation, and premature death.

Conclusion

Mental Health UK Key Opinion Leaders naivety and/or denial about psychological and cognitive Adverse Drug Reactions perpetuates the situation of patients being blamed for induced neuroleptic deficits and poor social functioning.

In stark contrast there is a rich, suppressed history of alternative care and treatment without the use neuroleptic medications that has been shown consistently to present far superior outcomes.[47]

Replacing current neuroleptic psychologically and cognitive abusive treatment with acceptable humane treatment[47] would enable true recovery, and independence away from the mental health system.

Successful Non-Neuroleptic Treatments for "Schizophrenia" [47]

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