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The Pathogenesis and Remedial Treatment (and Management) of Schizophrenia

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ABSTRACT

The pathogenesis of schizophrenia has been understood to commence with the intense painfulness of the young person's early environments, as their representational world. This preconscious representation of their early environments can be experienced so adversely as to impinge on brain function, namely the level of the individual's wellbeing as evaluated by the nucleus accumbens, which also evaluates wellbeing as a rewarding consequence of exposure to drugs of addiction. Involving connection with the A10 nucleus, which is arguably homeostatic like the homeostatic nuclei that surround it in the brainstem, the nucleus accumbens and prefrontal cortex secrete excessive amounts of dopamine to counteract the individual's dysphoria. This adversely affects the functioning of the prefrontal cortex, which leads to the common manifestations of schizophrenia. Successful treatment is directly aligned with its proposed pathogenesis. Palliative management can provide alleviation to a lesser extent of some aspects of the illness.

Keywords

Schizophrenia, Pathogenesis, Remedial, Representational world, Resource-intensive.

Introduction

Schizophrenia affects its sufferers globally. It is also almost polymorphic in the wide range of symptoms it can cause its patients within the diagnosis, so it is not likely that a simple explanation for its occurrence would answer all the questions it poses to those studying it. But a core thread of causality within the lives of many of its sufferers may be identified as a continuity of events creating the devastating clinical picture seen in many schizophrenic patients by clinicians. When the fundamental pathogenesis is recognized in this way, with other aetiological factors emerging in due course for ancillary though also common features in some patients, treatments may be targeted with foreknowledge and much more insight as to what clinicians are addressing in each patient. This paper particularly refers to those schizophrenic patients with positive symptoms, sudden onset, high emotional content, and mainly young adult women, who generally respond better than men to treatment. Those with negative symptoms, gradual onset, low emotionality, and greater age or in childhood will be bearing additional causalities which are not readily understandable by this fundamental pathogenesis alone. Careful patient selection will identify patients in the first group who are articulate and accessible and likely to be able to benefit, sometimes hugely, from expertly understood and delivered psychoanalytic psychotherapeutic treatment. Some inferences may be made from this understanding of the pathogenesis, such as why migrants so frequently succumb to schizophrenia; on their own in a foreign country their experience would seem to become so dreadfully painful and dysphoric that their mind is affected as a child's is who cannot benefit adequately from their environment to flourish.

The pathogenesis of schizophrenia

When schizophrenic or schizoaffective patients undergoing psychoanalytic psychotherapy are studied, it becomes apparent that their premorbid experiences have been extremely miserable [1]. A Psychoanalytic concept, the representational world, is understood in the preconscious mind to represent features of the successive

environments a child registers with meaning for themselves as they gradually grow up, moving from one context in life to another; it acts as a guide for the child [2]. In the schizophrenic patient their representational world has become profoundly miserable (for reasons unknown at present; siblings may be entirely unaffected) [3]. As an adult, this representational world structure remains part of their preconscious mind, a long term aspect of their mind.

Neuroscience [4,5] currently holds that the nucleus accumbens in the brain is known as 'the reward centre' of the brain for its function of greatly producing dopamine in response to drugs of addiction such as amphetamines or cocaine, and registering the gratifying wellbeing experience of having received a 'reward' from the drug-taking. But before any drugs of addiction have been taken it is probable that the nucleus accumbens registers for the individual their sense of wellbeing, or otherwise, which is the same emotional experience as detecting the wellbeing glow of a reward. When the intensity of dysphoric thoughts in the cortex and dysphoric feelings in the limbic system detected by the nucleus accumbens eventually reaches a threshold, the nucleus accumbens sends a glutamatergic communication to the A10 nucleus in the brainstem, which is surrounded by homeostatic nuclei balancing blood pressure, pulse rate, blood gas saturation levels and body temperature. It seems the A10 nucleus may also be a homeostatic nucleus, maintaining homeostasis of wellbeing for the individual. When it receives this communication from the nucleus accumbens it sends a dopaminergic communication along the mesolimbic mesocortical pathway to the nucleus acccumbens and the prefrontal cortex to secrete dopamine to try to restore the wellbeing the individual has lost through their dysphoric experiences of their environment; this dopamine production is prolonged and in excess because the dysphoric experience of the patient does not cease, but continues completely unabated.

The prefrontal cortex has in many schizophrenic patients become damaged due to hypoxia and stress at birth. It is sensitized to dopamine, and in the face of excess dopamine being produced by the nearby nucleus accumbens and by its own innervation from the A10 nucleus, it malfunctions. Instead of formulating, monitoring and modifying action plans in the patient it manifests reduced activity, dysregulation and decreased efficiency. It is unable to process, as part of its general malfunctioning, extremely dysphoric cortical thoughts and extremely dysphoric limbic system emotions; instead, it produces distorted or psychotic words and behaviour, the clinical picture of schizophrenia.

Treatment

"Treatment" herein refers to the potential of restoration to normality as far as the patient can respond to the process. "Management" herein refers to palliation or improvement in the patient's condition to an acceptable level of functioning without remedial aspiration for their thinking.

The only treatment capable of resolving schizophrenic illness addresses specifically its pathogenesis and treats the illness process where this is accessible to intervention. Dr. Michael Robbins' theory of mind that he used when treating his paranoid schizophrenic patients with a combination of Psychiatric and Psychoanalytic techniques consisted of 8 systems in a hierarchy of human sciences: molecular biology, neurobiology, neurochemistry, intrapsychic psychology (psychoanalysis), interpersonal psychology, family systems, sociology and cultural anthropology [1]. Four of these systems are therapeutically accessible, allowing the patient to be helped at 4 different treatment levels:

1. At the neurobiological level, pharmacological intervention with antipsychotic medications, commonly for the long term, causes the excess dopamine to be countered so that it does not disturb the prefrontal cortex's verbal or behavioral output and distress the patient.
2. Intrapsychic psychology, through psychoanalytic psychotherapy, addresses the patient's very disturbed representational world so that the patient's memories no longer adversely affect her; the patient learns to tolerate her memories' unpleasantness, and challenges their ability to destabilise her.
3. Family therapy aims to help the patient's family acknowledge the great improvement in their ill relative, and treat her with respect and kindness in her new awareness and abilities in social functioning. This may not be successful, and the patient may choose to leave her family but on the best terms possible.
4. The patient's social and community welfare may be supported as it develops by a social or healthcare worker for the initial period after the patient has left her hospital treatment.

This combination of 4 approaches is the only treatment of the illness that can resolve the illness process. It does so because it addresses the patient' s mind from her own point of view and, also, addresses the illness from the perspective of its pathogenesis; and, depending on her personal robustness, gives her the ability to see exactly what goes on in her responsiveness to life's events as these impinge on her. Psychoanalytic psychotherapy halts the disease process, allowing her to identify for herself aspects of her mind which she can then work on herself to improve. She may not have the skills always to counter successfully her mind's tendencies of frailty, easy destabilization, difficulty mentalizing, or timidity, but within all these tendencies her mind is alive, alert and responsive, needing time to grow, a very different picture to the mind of an untreated schizophrenic patient.

Addressing the psychological component, forming together with medication the most substantive elements of this therapeutic combination, Dr. Michael Robbins identified 7 therapeutic Stages of progress that he saw as being common to the process of psychoanalytic psychotherapy in each of his portfolio of 18 paranoid schizophrenic patients [1]. This author (GS) identified the same 7 Stages in her research patient which mirrored exactly from the patient's perspective these 7 therapeutic Stages, which have become the observed evidence from Dr. Robbins' and this author's research of the process of psychoanalytic psychotherapy of schizophrenic and schizoaffective patients [3]. This process, thus identified, renders remedial transformation in the patient's life possible, depending on the patient's drive for life; as far as the

clinician is able, this potential of the patient should be accurately estimated when the patient is assessed with a view to possible psychoanalytic psychotherapy treatment.

Treatment with antipsychotic medication is the mainstay of Psychiatric treatment of psychosis at present. This is supplemented in general psychiatric care by behavioural control and interpersonal consultations directed at calming and encouraging the patient. These do not, however, always go very far towards resolving the patient's distress in the long term, being limited to supportive maintenance; the antipsychotic medication, however, is essential in most cases, commonly as lifelong treatment. And sustaining, maintenance management remains the task of the Psychiatrist in helping more severely ill patients such as those with behavioural problems. But for remedial treatment, family therapy continuing for several sessions, and social welfare follow-up in the community after hospitalization, complete this 4-part treatment of schizophrenia which holds the potential for resolution of the illness.

Treatment of an individual symptom with remedial aspirations is exemplified by the very successful Avatar Therapy, derived by the late Professor Julian Leff [6]. This process treats auditory hallucinations in schizophrenic illness, and often resolves them. A figure selected by the patient as a hostile facial image on a computer screen speaks to the patient with a voice like that which has troubled her (although it is her clinician in disguise). Initially hostile, like her intrusive symptom, the voice gradually becomes less aggressive and milder: even, eventually, becoming complimentary and supportive. In this way the patient's hostile auditory hallucinations become reduced to inoffensiveness. This is therefore a very useful and effective symptomatic treatment. It treats one troubling symptom, bringing about great clinical relief, but does not resolve the patient's illness of her mind to the point of healthy independence.

Management

Most current therapies of schizophrenic and schizoaffective patients aim to improve their functioning as a management task to enhance their experience of life. Symptomatic management directs the patient to aspects of their illness, for them to concentrate on, leaving other symptoms unamended. Symptom-based CBT [7], as a therapy which has been tailored to this task, is not remembered sufficiently enduringly as a cognition by patients to be effective in the long term. Need-Adapted therapy [8], practiced in Turku, Finland, aims to improve schizophrenic patients' functioning within a circumscribed, familiar community. Patients are encouraged to be themselves within the local community framework, and to develop self-narratives in groups. It seems Need-Adapted therapy may produce its effects by adjusting, over time, the patients' representational worlds from whatever their earlier difficulties may have been, through absorbing an entirely welcoming community framework which challenges all unpleasant elements of memory or behavior or feelings. The treatment is very popular among patients and their families, but generally lacks the initiation of awareness or insight in the patients which would allow them to flourish outside the community. In this sense, Need-Adapted therapy seems to be successful clinically but in a restricted, community environment without the full autonomous independence of a patient who is aware of his or her mind.

Management of those schizophrenic patients who are not accessible at the psychoanalytic level due to intense conscious disturbance requires great Psychiatric skill. And at the deeper level, transference for a therapist, male or female, may be difficult for these patients to experience in a calm way which would render psychoanalytic therapy possible. Sometimes these schizophrenic patients build up to an overwhelming extent feelings of resentment and anger and aggression to a potentially violent level. This degeneration of their mind's health may occur steadily through their lifetime after repeated disappointments, frustrations and painful experiences generally. Close attention needs to be paid to patients in this mental condition because of the very serious potential consequences of not doing so. The proportion of schizophrenic patients who are affected in this way is small, the great majority of them remaining passively ineffective and inoffensive regarding other people. The selection of schizophrenic patients for psychoanalytic psychotherapy should be focused on those who are calm enough to become in touch with their unconscious minds but resilient enough to persevere throughout their treatment process; but, sadly, excluding those who are overcome by their illness, and those whose disease process has destroyed too much of their innate goodwill, hope and humanitarian disposition, leaving them in a state of desperation.

Social skills training [9] and anticipatory pleasure skills training [10] may both be effective ways of managing schizophrenic illness in allowing patients to progress further in their lives through specific improvements in their interactions with others and in their experiences of living. Social skills are life-skills, and can enable patients to reach much improved levels of functioning, at home and at work. The patient's mind remains much as it was previously, and is perhaps now stable, but now also enables him to interact, for example with work associates, through the improvement in his functioning. Some symptoms may persist, but the patient develops skills of his or her own to overcome these. Anticipatory pleasure skills training, affecting the mind as localized learning, can also bring improvement depending on the patient's personality. As skills training, these two therapies provide improvement of life experience through learning, put into practice, rather than rectifying the patient's underlying mental illness process.

Discussion

Resolving schizophrenia through Dr. Robbins' 4-part treatment is resource-intensive: clinicians' time and effort, bed occupancy, vigilance covering patients throughout their therapy to ensure their safety, financial investment and long term commitment are all expensive and would be costly in any health service. But the 2012 Schizophrenia Commission estimated that the cost to society in 2012 of an untreated schizophrenic lifetime was £1.8m. The cost at today's rates of a 4-part treatment for schizophrenia would be £5-800,000. This is also a very large sum of money, but still only one third to one half of the estimated alternative, and in addition

it takes care of the humanitarian aspect of the Medical position clinicians have to consider. If a patient is capable of undergoing the stresses of, and benefiting from, the treatment then ethically, in Britain today, she or he should be given the opportunity to do so.

Management of schizophrenia must continue for all schizophrenic patients, which is practiced today in order to minimize distress and pain. Some patients are capable of so much more than being given medication and talked to and comforted and then sent on their way. If the protocol of psychoanalytic psychotherapy could be widely discussed by Psychiatry-trained Psychoanalytic clinicians and established then its feasibility and proof of the concept could be assessed and demonstrated safely under strict conditions which ensure the treatment is conducted as confidently and safely as are extremely complex and resource-intensive surgical procedures that have been developed and are implemented today.

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