

A Neurophysiological Test May Help Diagnosing Unclear Cases by Sören Nielzén

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Abstract

This case study has been written with the intent to show an example of neurophysiological testing of brain stem functioning to support diagnose and therapy control in psychiatry. Such testing points to the existence of biological changes connected with various disorders. Diagnosis becomes underpinned by an operational definition based on a specific reproducible technique and earlier group comparisons for each diagnostic group.

Keywords: Schizophrenia; Hyperactivity disorder; Autism spectrum disorder; Auditory brainstem response; Diagnose; Therapy-control

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Introduction

A woman, 41 years of age comes to the surgery because she wants to get rid of her stigma of having been diagnosed with schizophrenia since young adulthood [1-3]. During several years she has been convinced that her illness is not schizophrenic in nature and she does not want to be so heavily medicated.

Background

She was born and left at an African missionary hospital and was later adopted by a Swedish couple. She was brought up by them and describes them as being humble, trustworthy and “good people”. Nothing is known of the genetics of the parents and their records of diseases. However, she has a twin brother who is diagnosed with Autism Spectrum Disorder (ASD) from childhood [4,5]. This brother has a simple work, lives alone and has no specific treatment or follow-up. There also was an elder healthy and prosperous sister, who regrettably died in an accident when the patient was a teenager.

Life Experience

She went through schools to the level of college and got excellent marks in most subjects, especially those related to language. Socially she had a complicated youth, even if far better than that of her brothers, of whom another adoptee suffered from Asperger’s syndrome and was violent and disorganized in periods. She stayed out at nights, displayed aggressive behavior and bid defiance to her parents. She never touched alcohol, tobacco or chemical substances [6]. Understandingly, she dealt with much rumination on her provenience, her identity and her existence

in a country which is not of her birth. There were also incidents of mobbing due to her racial belonging. In spite of this, a solid Christian faith has guaranteed a feeling of coherence during all her life.

She has not gone through any education at university level or had any responsible work position. Instead she has had to work at places and in conditions that have been little challenging and sparse in confrontation and communication with people [7]. Her occupations have been coordinated with open psychiatric contact and help all along. Contacts with men has been temporary, she has no children, lives alone and is a virgin. Normal menstrual cycles maintain.

Psychiatric Anamnesis

Compulsory psychiatric care was first applied at 18 years of age when she had been violent, yelling and threatening and openly aggressive. This was followed by a few more inward periods and the last ones have taken place at 34, 39 and now at 41 years of age. The aggressiveness has been successively weaker and she feels a need to change/end her medication and to get a contact with a psychotherapist [8,9]. Presently she is medicated with Ability 30 mg once a day. Experience of depression is denied but she has had episodes of anxiety when being ill. Questions of thought disorder such as thought blocking or crowding are answered negatively as are those of magic feelings or episodes of hallucinatory experiences. At one single period of time she collected more or less meaningless things in her room until it became uninhabitable. This behavior was never repeated.

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Psychiatric Status

During the consultation of second opinion character, which this case study relies upon, the patient displays tasteful clothing, good verbal and emotional communication. Her behavior is smooth, obliging and unreserved. Her verbal and linguistic capacity seems to correspond to a higher level than average and she is prepared to speak her mind. Memory, concentration and orientation are adequate and attention good, although there are a few fallacies regarding her interpretation of humorous comments during the conversation. There are no signs of hallucinations or delusions; the mental and cognitive flow is continuous as is her motor behavior [10]. The mood is euthymic and no retardation can be seen in her mimics. No exceptional tension or agitation as in anxiety states.

Diagnostic Considerations

The clinical differential diagnostic deliberation does not result in a firm conclusion of a schizophrenic state. For instance, there is an emotional contact and an extroversive communication which is unusual in that condition [11]. Continuous hallucinations for any sensory quality and perceptual changing of the impressions of surroundings have not been registered. Neither has any sudden deterioration of her life trajectory or cognitive status been reported, nor her shyness has been lifelong.

ADHD should be considered. The patient had no difficulties in following the education at school which indicates that her ability of focusing and concentration has not at an early stage exceeded abnormal boundaries. Later symptoms of ADHD have not been characteristic either. She doesn't speak in a stressed manner, listens calmly and is not agitated or tense.

Symptoms of adult ASD are not pronounced. However, some kind of rigidity in associative thinking and some misunderstandings of intentions and meanings in the conversation occurred, although they did not in any way disturb the possibility to recapture the line of reasoning.

Depression of any type or mania was excluded *inter alii* due to the absence of ideation of worthlessness, guilt, delusions of grandeur or any other well-known sign of similar states. Her anxiety incidents don't seem to have the characteristics of accompanying any depression, neurosis or environmental

stress. More probably, they emanated from some near psychotic experiences with their "anhedonic"—sudden start and stop—type. A preliminary diagnosis based on the clinical interview was formulated: *Unstable personality with borderline psychotic disposition*.

Test procedure

After the clinical examination an ABR (Auditory Brainstem Response) test was performed. The applied specific test is a variant of ABR using complex sounds as stimuli, sometimes called cABR. It comprises elements of new technology and analytic procedures. This electrophysiological method shows significant aberrances typical for groups of persons with schizophrenic, ADHD, and adult ASD diagnoses as assessed so far. An index is constructed from comparisons between median ABRs from great diagnostic groups with median ABRs from equally large groups of healthy subjects. It is computed from areas under the parts of the curves of the pathological groups where the areas under the curve for the norm-group (healthy subjects) deviate significantly. The index for a single subject and a specific diagnose is the percentage of the maximum possible index value for the respective diagnostic group/groups. The technique is described in detail in Nielzén et al. [3].

Interestingly, the patient's recordings revealed a statistically significant index value for ASD (62.2) and non-significant index values for ADHD (56.0) and schizophrenia, which had the lowest value (21.4). The emergent significance for ASD puts the ASD-typical collecting period, mentioned earlier, in an explicable context.

This result supports the patient's self-experienced wish for a change of her schizophrenic diagnosis and a proposition for a diagnostic completion: *Unstable personality with autistic and borderline psychotic disposition*.

Conclusion

In conclusion, this study underlines the usefulness of biological markers in psychiatry to support diagnostic and therapeutic evaluations. The results may have consequences for the local psychiatrist regarding future diagnosis, medication, and general treatment of the patient.

References

- 1 Källstrand J, Nehlstedt S, Sköld M, Nielzén S (2012) Lateral asymmetry and reduced forward masking effect in early brainstem auditory evoked responses in schizophrenia. *Psychiatry Res* 196: 188-193.
- 2 World Health Organization (WHO) (1992) The ICD-10 classification of mental and behavioural disorders.
- 3 Nielzén S, Holmberg J, Sköld M, Nehlstedt S (2016) Brain stem audiometry may supply markers for diagnostic and therapeutic control in psychiatry. *Neurosci Lett* 632: 163-168.
- 4 Nielzen S (2016) Towards a Neurophysiologic Support for Diagnosis and Therapeutic control in Psychiatry. *Acta Psychopathol* 2: 53.
- 5 Woods BT (1998) Is schizophrenia a progressive neurodevelopmental disorder? Toward a unitary pathogenetic mechanism. *Am J Psychiatry* 155: 1657-1659.
- 6 Rund BR (2009) Is schizophrenia a neurodegenerative disorder? *Nord J Psychiatry* 63: 196-201.
- 7 Mirsky AF, Duncan CC (2005) Pathophysiology of mental illness: a view from the fourth ventricle. *Int J Psychophysiol* 58: 162-178.
- 8 Hall MH, Schulze K, Rijdsdijk F, Picchioni M, Ettinger U, et al. (2006) Heritability and reliability of P300, P50 and duration mismatch negativity. *Behav Genet* 36: 845-857.
- 9 Freedman R, Olincy A, Ross RG, Waldo MC, Stevens KE, et al. (2003) The genetics of sensory gating deficits in schizophrenia. *Curr Psychiatry Rep* 5: 155-161.
- 10 Gschwandtner U, Pflueger MO, Semenín V, Gaggiotti M, Riecher-Rössler A, et al. (2009) EEG: a helpful tool in the prediction of psychosis. *Eur Arch Psychiatry Clin Neurosci* 259: 257-262.
- 11 Katsanis J, Iacono WG, Beiser M (1990) Anhedonia and perceptual aberration in first-episode psychotic patients and their relatives. *J Abnorm Psychol* 99: 202-206.