The overlap between autism and psychosis

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Picture: James Edwards
• Major increases in autism diagnoses

• Very little known about
  • how they fare later in life at the population level
  • what public health/clinical support need to be in place
  • treating co-morbidities may lead to better outcomes? Vs. Autism overshadowing other diagnoses
Nosology intertwined in history...

• Bleuler (1905) - ‘autism’ was one of the four cardinal features (the 4 A’s) of Schizophrenia

• Kanner (1943) used the term ‘autistic disturbance’ to describe 11 children that would alternatively be known as having ‘childhood schizophrenia’

• Asperger (1944) used the term ‘autistic psychopathy’
Early attempts at separation (Kanner 1943)

• Normal development followed by decline vs ‘extreme aloneness’ from the beginning

• Stepping out of a world after being a part of it, vs gradual compromise to extend cautious feelers into a world they have been strangers to (potential for progress and improvement)
Not long ago, it was all called schizophrenia...

• ICD8 – it was all childhood schizophrenia
• There was no separate category of autism before ICD9 (1977)/ DSM-III (1980)
ICD10 (research criteria)

- Childhood Autism: the condition is not attributable to schizophrenia of unusually early onset.
- Aspergers – the condition is not attributable to simple schizophrenia, or schizo-typal personality disorder.
- Chapters trump – schizophrenia trumps autism [but in the here and now – if ASD as child then develop Schizophrenia do you lose ASD?]
DSM4 -TR

- Childhood onset schizophrenia is an exclusion criteria for ASD
- States Schizophrenia may occasionally develop in ASD
- Additional diagnosis of Schizophrenia is warranted only if prominent hallucinations or delusions have been present for at least one month and if onset of ASD clearly proceeds the Schizophrenia.
- States relationship between ASD and Schizoid personality disorder is unclear.
DSM5 differential diagnosis echoes DSM4

- Schizophrenia with childhood onset usually develops after a period of normal or near normal development. A prodromal state has been described in which social impairment and atypical interests and beliefs occur.

- Hallucinations and delusions which are defining features of schizophrenia are not features of autism spectrum disorder.
Possible reasons behind an overlap

- ASD and Psychoses are on the same spectrum with a common origin
- ASD is a risk factor for Schizophrenia
- Diagnostic confusion because definitions or symptoms overlap
Adults with ASD and Psychotic experiences

- Self reports of hallucinations when well [eg, when bored]
- People with autism often report hearing voices ‘in their heads’
- Delusional belief is fairly high in ASD - usually grandiose or persecutory

On the other hand:

- Adults with schizophrenia perform badly on ToM and on Visual ToM Jokes - not linked to severity of delusion or hallucinations.
- Majority of adults with Child Onset Schizophrenia meet one or more criteria for PDD
Is it due to mistaken personality diagnosis?

• ASD said by some to include Schizoid Personality Disorder and Schizotypal Personality Disorder
• Schizoid personality disorder [3 times more common than ASD?] is associated with a family history of Schizophrenia.
• Schizotypal personality disorder predisposes to schizophrenia.
Common origins?

- Children with ASD more likely to have a family history of psychotic disorders (e.g. Sullivan 2012).
- Shared risk factors – e.g. paternal age, obstetric complications, fetal growth
- Rare genetic mutations (CNVs) associated with both ASD and Schizophrenia.
  - But less evidence of common genetic variants being associated with both.
Common origins? MRI

- General studies of Schizophrenia show temporal lobe, and sub-cortical, frontal and parietal anomalies but less evidence for cerebellar anomalies.

- Psychosis in ASD associated (cf ASD) with reduced grey matter in right insular cortex & both sides cerebellum and fusiform and lingual gyrus.

Toal et al 2009
ASD as a risk factor for psychoses: Clinical epi

• 129 ASD adults referred to child neuropsychiatric clinic in Sweden (Ståhlberg et al 2004)
  • 7% had bipolar disorder with psychotic features
  • 7.8% had schizophrenia or another psychotic disorder
• Lack of controls a limitation
Population studies - 1

• Of 89 children diagnosed with atypical autism, in long term follow-up 31 developed a schizophreniform illness (Mouridsen 2007)

• Of 118 diagnosed with autistic disorder in long term follow-up, 8 had been diagnosed with a schizophreniform illness. (Mouridsen 2008)
Population studies – 3

- ALSPAC birth cohort, Bristol (c14,000)
- 86 children diagnosed formally with ASD by age 11 (0.6% prevalence)
  - In addition various dimensional measures of autistic traits measured [n=5359]
- Interviewed for psychotic experiences at age 12
- Those with ASD had Odds Ratio of 2.81 [1.07 – 7.34] for ‘psychotic’ symptoms.
  - Similar results for autistic trait measures, including traits less likely to be confused with psychosis i.e. repetitive behaviours
Some case studies

- Is this psychosis?
- How do/will you know
- What else could it be
- What next in assessment/management?
Steve

- Steve is a 19 year old man with moderate LD and Autism. He has sensitivity to noises and some textures. Speaks in telegramatic speech (mainly nouns and verbs), but will answer questions. Can wash and dress himself.

- Generally a happy lad who has just left school. He smiles all the time. Mother has commented on increased masturbation (and having to keep telling him to cover up) and that he reports seeing an invisible mouse. He tells them to step over it. Started one year ago, but talking more about this in recent weeks.

- On interview, he smiles and points in corner and moves along floor saying ‘there!’ when asked to show where the mouse is. Asked what colour it is - says “white” and when told I cannot see it says “no, invisible”. Says ‘nice mouse, my friend’.

- 3 months later on no treatment, says he has a girlfriend (spice girl Emma Bunton) who sleeps in the bed with him. Mother can hear him talking to someone in room at night.
Alan

• Alan 20 – with ASD and borderline ID, went to a daytime ASD school and lived with parents and sister. Some challenges in early childhood and anxiety in early adolescence with new school, but settled and did well.

• After school at 18 moves on to college in town centre. Here anxious, hallucinates briefly and admitted to hospital where quickly recovers with antipsychotics. Clearly shaken by experience but keen to achieve and go back to college.

• However very anxious and fearful of others upon return to college. Talks of boys interfering with his studies. Marked deterioration in functioning – very challenging at home so moved to care home.

• Here he is reported to have lost skills, compared to when at his parents. Restarting college is considered inappropriate. He continues on 5mg Olanzapine.
Bella 19 with autism and borderline IQ went to residential school, and now is back at home. She is preoccupied with a boy who was in her class at school – that he loves her – but there is no evidence for this. She can see him as she goes to bed, and talks to him. She is unshakeable that he loves her. She spends time in her bedroom looking at his Facebook page. She neglects all else and spends all her time on him.

On antipsychotics it is possible to reason with her and plan her care, but she gets upset with the realization that he does not love her. She hates taking medication. She hopes that if she stops taking the tables, he will start loving her again.
Carl

- Carl is a quiet 20-year-old – the model shy child with an Asperger's diagnosis. Worked on the tills in supermarket [would only allow people through the express checkout if had 10 or less items]. On the till, he would ruminate about the food people were buying and if this indicated healthy eating.

- On a walking holiday with family, he became disturbed and the holiday had to be cut short. He is complaining of people talking about him (in the third person) and constantly looking behind him and very distressed. He responded to Olanzapine but three attempts to stop over the last 2 years have led to recurrence of distressing voices. However, continues to develop skills.
Hannah

• Hannah is aged 50 with borderline ID. She lives with her sister – who describes her as ‘odd’ from a young age. Difficult to get a history of childhood in 1950’s and 60’s. Has only lived with sister for last 2 years since parents died.

• Sister describes a passive woman, who does things when told to – but may not come to table to eat until called. Can wash and dress herself – but everything requires prompting. Generally only says one word answers or odd common phrase.

• Sister describes no history of hallucinations or delusions. Sister says that she can return home after work to find her sitting in the dark appearing to have not moved from her seat since the morning.
Mark comes for an autism diagnosis at age 19. ASD symptoms – bright child, preoccupied with washing machines and then spiders [keeps pet house spiders]. Says, ‘I don’t do people. I don’t do feelings’. In family history, father sounds strongly as being ‘on the spectrum’.

Preoccupied by being ‘harassed by spirits’ [mother a spiritualist]. Psychiatrist opinion is that this seems related to anxiety and not a first rank symptom. Symptoms better on Citalopram 20mg.

Later moves to own flat. Here becomes friendly with next door young couple. Calls police after hearing neighbour beating his wife. Gives witness statement. Then complains of hearing them talking about him through the walls during the day time. They keep saying ‘get him beaten up’ and saying ‘he’s got a small penis’, and sometimes just give the number 7½ (which he sees as an underestimate of his penis size)

Voices disappear with Sulpiride 400mg. Trying to stop Sulpiride leads to strangers talking about him and laughing at him when he goes out.
Can one separate ASD from Schiz?

- ADOS algorithm will not separate in adults
  - But the quality of the rapport and interaction may do and the RRBI.
- History will
- Comments of Raja 2009
  - Motor clumsiness is not frequently observed in schizophrenia.
  - Specific skills and unusual and restricted interests are not described in schizophrenia.
  - Violence in ASD more often targeted at relatives, unlike in schizophrenia.
  - Lack of response of background functioning to medication in ASD.
When is it a hallucination?

Pointers

• State of clear consciousness
• Not in control of it
• Want them to go away
• Intrusive
When is it a delusion in autism (or ID)?

• Pointers
  • [Clear consciousness]
  • Held with Certainty [are are most beliefs of person with autism]
  • Fixed – absolute certainty [most people with autism will discuss their beliefs]
  • Bizarre – [if non-bizarre might be a delusional disorder] [but check not logical for
    the person with autism, given their understanding]
  • Dominating behaviour adversely [make you want to treat it]

• But consider also if it is:
  • fantasy
  • Recall
  • Magical thinking

• Emotional commitment to it does not separate out.
Mistaking ASD for psychosis

• Thoughts expressed simply and concretely by someone who has difficulty in describing internal symptoms can sound very like hallucinations.

• Occasionally, a very vivid account of events is held consistently but is plainly false; these perceptions do not seem to trouble the individual or to be associated with any functional change. There is the sense that the individual is living in a ‘video world’, only detectable and comprehensible if the interviewer has also seen the video.

• High arousal in a developmental disorder can produce an acute and transient psychotic state with hallucinations and thought disorder.

• Incomplete answers can sound like psychotic symptoms. For example, a bald report, without elaboration or context, of everyday teasing can sound like persecutory delusions.

- Tom Berney 2004
Mistaking ASD for psychosis

• A pragmatic difficulty in appreciating the extent or limitations of someone else’s knowledge of a topic, coupled with a tendency to obsessionality, can result in over-inclusive, irrelevant speech that mimics thought disorder.

• Impassivity and a lack of awareness of the emotional climate can look like inappropriate or blunted affect.

• The catatonic symptoms (e.g. odd mannerisms and postures, freezing or difficulty in initiating movement) that occur in a variety of neurological conditions, including schizophrenia, can also occur in ASD (Wing & Shah, 2000).

• The slow and reluctant response of patients asked to perform a task that has no meaning for them resembles the negative symptoms of schizophrenia.

• ASDs can show improvement with neuroleptics (Campbell et al, 1996).

Tom Berney 2004
Conclusion

• Increasing evidence showing adults with ASD may have increased liability for psychosis.
• But... adults with ASD can present features that can be mistaken for Psychosis (and vice versa).
• Are we not recognising psychosis in ASD enough or are we treating it but not labeling it as schizophrenia?
• Does this affect how we design services for ASD?