Antidepressants and Autism

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Objectives

- Rationale behind using antidepressants
- Usage & Evidence
- Issues

Antidepressants

- Used many years in Autism
- For anxiety, communication, repetitive beh.
- Causes akathesia, disinhibition, mood fluctuation.

Antidepressants

- SSRI
- Clomipramine
- Venlafaxine
- Mirtazepine

Rationale

- Serotonin in autism
- Elevated 5HT level (Schain et al. 1961)
- 25-30% hyperserotonemia (Cook et al. 1996)
- Reduction of Tryptophan intake increase autistic beh. (McDougle et al. 1996)
- 5HT synthesis disruption in (~5yo) ASD (Chugani 1999)

Rationale

- The relationship is still controversial
- Neurodevelopmental process?
- Neurotransmitter
- Neuro modulator
- 5HT transporter gene & DD/ASD (Murphy 2004) [controversial]
- Serotonin agents helpful sometimes

Clomipramine

- TCA good for
- OCD
- Trichotillomania
- Onychophagia
- Anxiety
- Depression

Clomipramine

- Single-blinded study (Gordon et al. 1992)
- Double-blinded study (Gordon et al. 1993)
- Clomipramine, not other TCA/placebo, improves compulsive behaviours, anger and uncooperativeness

Clomipramine

- Open label study shows positive effect on overall functioning (Brasic et al. 1994)
- Another open label study show behavioural benefits but TOO much adverse side effects (Sanchez et al. 1996)
- Serotonin syndrome for younger kids (Brasic et al. 1998)

Fluoxetine

- Some open label trials - effective
- Controlled trials in children & adolescents (Buchsbaum et al. 2001) (Hollander et al. 2005)
- Significant reduction in repetitive behaviours (Y-BOCS)

Fluoxetine

- Double-blind, placebo-controlled trial in adult (Hollander et al. 2007)
- Similar decrease in repetitive behaviours by Y-BOCS

Fluvoxamine

- Double-blind, placebo-controlled trial in adult (McDougle et al. 1996)
- Reduction in repetitive behaviours
- Reduction in aggression

Fluvoxamine

- Double-blind, placebo-controlled trial in childen and adolescents (McDougle et al. 2000)
- Not significant in effect
- Side effects +++

Fluvoxamine

- Case studies for efficacy & Tolerability (Martin et al. 2003)
- No difference but with side effects

Paroxetine

- No trial
- Case report (2 to date)
- Side effect limits uses
- 10mg/day
- Increase dosage +++ Side effect

Citalopram

- Retrospective chart review children and adolescents (Namerow et al. 2003)
- Mixed outcome
- Large multicentre double-blind placebo-controlled trial for children & Adoelscents (King et al. 2009) [NIH STAART]
- No difference

Escitalopram

- Open label study shows improvement in global functioning and reduction in irritability (Owley et al. 2005)
- NO control trials

Sertraline

- Open label adult study shows improvement in SIB and aggression (Hellings et al. 1996)
- Open label C&A study shows improvement in transitional behaviour (Steingard et al.1997)
- Open label adult study shows inprovement in aggresion and DB (McDougle et al. 1998)

Venlafaxine

- Open label adult study shows improvement in repetitive behaviours (Hollander et al. 2000)
- No other significant study…

Mirtazepine

- Open label mixed age study shows improvement in aggression, SIB irritablity & hyperactivity BUT not significant (Posey et al. 2001)
- Side effect +++

Conclusion

- Some efficacy in reduction on repetitive & Stereotyped behaviours in Autism
- Not much good clinical evidence for some of the agents
- Needs further studies