

260-2017-03-15-bipolar

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Prelude

Today's Topics

- Bipolar disorder

Major affective (emotional) disorders

- Types
 - Bipolar disorder
 - Depression
 - Anxiety
- Heritability
 - *proportion of variance in trait accounted for by genetic factors*
 - Monozygotic: .69
 - Dizygotic: .13

Up/Down Documentary

Bipolar disorder

- Formerly “manic depression” or “manic depressive disorder
- Alternating mood states
 - Mania or hypomania (milder form)
 - Depression
- Cycles 3-6 mos in length, but
 - Rapid cycling (weeks or days)
- Suicide risk 20-60x normal population, (Baldessarini, Pompili, and Tondo 2006)

Symptoms

<http://www.nimh.nih.gov/health/topics/bipolar-disorder/index.shtml>

Prevalence, subtypes

- 1-3% prevalence, subthreshold affects another 2%
- Subtypes
 - Bipolar I: manic episodes, possible depressive ones
 - Bipolar II: no manic episodes but hypomania + depression

Related symptoms

- Psychosis (hallucinations or delusions)
- Anxiety, attention-deficit hyperactivity disorder (ADHD)
- Substance abuse

Genetics

- Overlap between bipolar disorder and schizophrenia
- Genes for voltage-gated Ca⁺⁺ channels
 - Regulate NT, hormone release
 - Gene expression, cell metabolism
- (Craddock and Sklar 2013)

Brain responses to emotional faces depression

(Lawrence et al. 2004)

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Amyg, Hip volume reduced,

(Hallahan et al. 2011)

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Drug treatments

- Mood stabilizers
 - Lithium (Li)
 - Valproate (Depakote)
- Anticonvulsants
 - GABA agonists
 - Usually to treat epilepsy
 - e.g. lamotrigine (Lamictal)
- Atypical antipsychotics

Lithium “discovered” accidentally

- Injections of manic patients’ urine with lithium compound (chemical stabilizer) into guinea pig test animals.
- Had calming effect
- John Cade discovered in 1948.
- Earliest effective medications for treating mental illness.

Effects of Lithium

- Reduces mania, minimal effects on depressive states
- Increases/preserves PFC, hip, amyg volume
- downregulates DA, glu; upregulates GABA
- modulates 5-HT, NE
- (Malhi et al. 2013)

Other treatment options

- Psychotherapy
- Electroconvulsive Therapy (ECT)
- Sleep medications

Prospects

- STEP-BD cohort (n=1469)
 - 58% achieved recovery
 - 49% had recurrences within 2 years
 - Residual depressive symptoms can persist
- (Geddes and Miklowitz 2013)

An Unquiet Mind

BP summed-up

- Changes in mood, but depression
- Genetic + environmental risk
- Changes in emotion processing network activity, size of hippocampus
- Heterogeneous
- No simple link to a specific NT system

Next time...

- Depression

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