

PITUITARY VOLUME IN VIOLENT MEN WITH SCHIZOPHRENIA OR ANTISOCIAL PERSONALITY DISORDER: RELATIONSHIP WITH CHILDHOOD PSYCHOSOCIAL DEPRIVATION

M Das^{1,2}, M Bipin³, P Premkumar⁴, A Sumich⁴, V Kumari³

1 Top End Mental Health Service, Darwin, Australia

2 Flinders University, Adelaide, Australia

3 Division of Psychology, Department of Life Sciences and Centre for Cognitive Neuroscience, College of Health and Life Sciences, Brunel University London, UK

4 Nottingham Trent University, Nottingham, UK

Abstract

Background: Psychosocial deprivation during childhood has known associations with mental disorder, violence or brain abnormalities in later life.

Objectives: This study aims to examine pituitary volume (which is sensitive to stress) in relation to seriously violent behaviour and childhood psychosocial deprivation (including physical/sexual abuse) in people with schizophrenia or antisocial personality disorder (ASPD).

Methods: Fifty-six men (groups: schizophrenia–serious violence (VSZ); ASPD serious violence; non-violent schizophrenia (SZ); non-violent healthy controls) underwent whole-brain magnetic resonance imaging and rated on presence of physical/sexual abuse, neglect, extreme poverty, foster-home placement, criminal parent, severe family conflict and broken home (collectively: psychosocial deprivation). Violent groups were from medium and highsecure hospitals. Stereological volumetric ratings of the pituitary were examined for group differences and their association with childhood psychosocial deprivation ratings.

Findings: There was significantly reduced pituitary volume in both VSZ and SZ groups compared to the healthy group. The VSZ group also had significantly reduced volume compared to the ASPD group, while there was a trend for this effect in the SZ group. Pituitary volume ratings correlated negatively with the severity of childhood sexual abuse and criminal parenting in the ASPD group, but no relationship was found between pituitary volume and psychosocial deprivation ratings in the other three groups.

Conclusions: The findings confirm previous research showing reduced pituitary volume in people with chronic SZ illness and suggest that this effect may be more pronounced in schizophrenia patients with a history of violence. The association between childhood abuse and smaller pituitary volumes, seen here in ASPD, may be lost in SZ perhaps due to multiple (additional) sources of chronic stress, or the effects of chronic SZ illness.