Cavum septum pellucidum and psychopathy*

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Summary
The presence of cavum septum pellucidum (CSP) has been reported to be a neurodevelopmental marker of psychopathy. We scanned 26 violent offenders and 25 controls; 2 offenders and 2 controls had CSP (8% in both groups). Thus, the presence of CSP is not a common or a unique feature of antisocial personality disorder or psychopathy.

Declaration of interest
None.

Method
Participants
Participants in this study were all men; there were 26 violent offenders and 25 age-matched healthy controls from a control pool (mainly hospital staff, friends, students, spouses, etc.). Data about the offenders were derived from university forensic psychiatric hospital records where they had been evaluated for pre-trial purposes. All were charged with violent offences (two murder, ten manslaughter, four attempted murder or manslaughter, one assisting manslaughter, six aggravated assaults (two murder, ten manslaughter, four attempted murder or manslaughter), one assisting manslaughter, six aggravated assaults). Each had a history of recurrent violent acts, and all but two had previous convictions. None had a history or current diagnosis of psychosis. The diagnoses were made by consensus using multiple sources of information. All of the offenders fulfilled criteria for both antisocial personality disorder (DSM-IV) and dissocial personality (ICD-10). Psychopathy Checklist – Revised (PCL-R) ratings were used to assess psychopathy. Moreover, all met the DSM-IV and the ICD-10 criteria for substance abuse related to polysubstance drugs (n = 20) or alcohol abuse (n = 6) with early-onset alcoholism corresponding to Cloninger type 2 young-onset alcoholism. As none were psychotic, all were judged to be competent to stand trial. The study setting was approved by the local ethics committee.

Imaging
The participants were scanned with a 1.0 T Impact (Siemens; Erlangen, Germany) using a standard head coil and a tilted T1-weighted sequence (MPRAGE, repetition time (TR) = 10 ms, echo time (TE) = 4 ms, inversion time (TI) = 250 ms, flip angle 12°, field of view (FOV) = 250 mm, matrix 256 × 192, 1 acquisition), no interslice gap. The images thus acquired were resliced to 1.0 mm thick continuous coronal slices, no gap, perpendicular to the anterior–posterior commissural (AC–PC) line using SPM2 software on Windows.

Image analysis and the definition of CSP
Image analysis took place using Analyze 6.0 software on Windows. Identical criteria to those used by Raine et al5 were applied. The presence of CSP was defined as CSP present in six or more 1.0 mm thick coronal slices.

Results
The two groups were matched for age (control group: mean age 35 years (s.d. = 8), offender group: mean age 34 years (s.d. = 10)). The mean PCL-R score in the offenders was 26.2 (s.d. = 3.8, range 20–34). Cavum septum pellucidum was present in two controls and two offenders (8% in both groups). In addition to CSP, one of the controls had cavum vergae.

Discussion
In this study we investigated whether violent offenders have an increased prevalence of CSP compared with a control group. We found this not to be the case. Our setting was similar to that in Raine et al’s study; the only difference being that Raine et al...

*This short paper is published here to offset the common tendency for journals to publish positive rather than negative results. I stress that its publication should not indicate to potential authors that submission of papers showing similar contradictory findings in other areas of psychiatry will be published in the same way. The British Journal of Negative Results in Psychiatry has yet to be launched. The Editor
collected data from temporary employment agencies, whereas we collected ours from pre-trial forensic psychiatric examinations. Therefore Raine and colleagues' material is from, as they state, 'successful' criminals who have avoided incarceration. Be that as it may, our criminals were probably studied more carefully, with the forensic psychiatric examination typically lasting months.

A large neuropathological study has suggested that 100% of preterm children have CSP. Postpartum, in full-term infants the prevalence falls quickly, ranging from absent to about 10% by the age of 16.² Our finding of 8% in both groups is very close to this. In conclusion, we suggest that the presence of CSP is not an exclusive, or even a typical, feature of violent individuals with antisocial personality disorder or psychopathy.

References


Funding

This study was supported by funding from annual EVO financing (special government subsidies) to Niuvanniemi and Vanha Vaasa Hospitals and by the Sigrid Juselius Foundation.

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First received 16 Nov 2012, final revision 7 May 2013, accepted 13 May 2013
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Access the most recent version at DOI: 10.1192/bjp.bp.112.123844

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