Substance use disorder during the early stages of bipolar disorder: A longitudinal study of the offspring of bipolar parents

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ABSTRACT

We assessed the relationship between the early stages of bipolar disorder (BD) and the risk of substance use disorders (SUD) in a prospective longitudinal study of the offspring of bipolar parents. Eligible families had one parent with confirmed BD based on best-estimate procedure. Offspring and a parent completed K-SADS-PL interviews by a child psychiatrist at baseline and were then reassessed prospectively. For this analysis, we included 210 offspring at least 12 years of age and used survival analysis adjusting for sex and SES, with time varying covariates to assess the relationship between the early clinical stages of BD and the risk of SUD. A lifetime SUD was diagnosed in 21% of offspring. The hazard of SUD was higher in the early stages of BD. Using hazard functions, which give an estimate of the risk of SUD at a specific age for an individual, implying that individual is free of SUD until that age, the peak age of onset for a SUD in both males and females appears to be between ages 15 to 19, with the average age of onset 16.98 ± 2.66 years (see figures 2a, 2b).

RESULTS

DESCRIPTION OF THE SAMPLE

The average age of HR offspring at recruitment was 16.77 years (± 5.23) and at last assessment was 21.49 years (± 5.31). Familywise (21%) and K-SADS-PL criteria for a SUD. The drug of choice was cannabis either alone (42%) or in combination with alcohol (48%). The mean age of onset was 16.89 ± 2.06 years. There was no difference in age at recurrence, age at last assessment or SUD between the HR offspring with compared to those without SUD. Univariate analysis suggested a higher proportion of SUD in offspring with compared to those without SUD, but the difference was not statistically significant. Using Cox proportional hazards model, the hazard of SUD was higher in the early stages of BD. The most common comorbidities were mood disorders, anxiety disorders, and sleep disorders. New evidence suggests that BD evolves in a predictable sequence of clinical stages. Therefore, understanding the nature of the association between BD and SUD could provide a unique opportunity to study the nature of the association between BD and SUD.

METHOD

PARTICIPANTS: Families in this analysis were identified as part of an ongoing high-risk study. The affected parent had confirmed BD based on best-estimate procedure and the other parent was unaffected for major psychiatric disorder. Participants were as follows: BD (21%), lithium resistant BD (LiR), and non-respondent (LiNR). The data was collected by trained research assistants.

PROCEDURE: 210 consenting offspring (87 males, 123 females) completed K-SADS-PL at baseline and were then reassessed prospectively. Familywise (21%) and K-SADS-PL criteria for a SUD. The drug of choice was cannabis either alone (42%) or in combination with alcohol (48%). The average age of onset was 16.89 ± 2.06 years. There was no difference in age at recurrence, age at last assessment or SUD between the HR offspring with compared to those without SUD. Using Cox proportional hazards model, the hazard of SUD was higher in the early stages of BD. The most common comorbidities were mood disorders, anxiety disorders, and sleep disorders. New evidence suggests that BD evolves in a predictable sequence of clinical stages. Therefore, understanding the nature of the association between BD and SUD could provide a unique opportunity to study the nature of the association between BD and SUD.

Table 1. Characteristics of Offspring with compared to those without a lifetime SUD

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>With SUD</th>
<th>Without SUD</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender Male</td>
<td>71</td>
<td>149</td>
<td>&lt;.000</td>
</tr>
<tr>
<td>Gender Female</td>
<td>139</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>Age Mean (sd)</td>
<td>16.98 (2.66)</td>
<td>16.89 (2.06)</td>
<td></td>
</tr>
<tr>
<td>Age range</td>
<td>15-19</td>
<td>15-19</td>
<td></td>
</tr>
<tr>
<td>SUD Male</td>
<td>2.86 (1.51, 5.42)</td>
<td>0.0013</td>
<td></td>
</tr>
<tr>
<td>SUD Female</td>
<td>2.01 (1.01, 5.61)</td>
<td>0.0013</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Clinical staging model for bipolar disorder

Figure 2a. Hazard of SUD by stage for females averaged over SES

Figure 2b. Hazard of SUD by stage for males averaged over SES

CONCLUSIONS

This analysis confirms previous findings that SUD is a significant complicating comorbidity for individuals with BD, and adds new information that SUD occurs during the early course of evolving illness, not uncommonly before the first affected episode.

As far as we know, this is the first analysis of the risk of SUD based on prospective longitudinal observation in a well characterized high-risk cohort. To refine our understanding of the relationship of the onset of SUDs with the early course of BD, we have used a novel staging model based on our previously published findings.

The observations suggest that clinicians should be alerted that SUD may occur very early in the clinical course, particularly in males. In this high-risk cohort, the peak hazard of SUD occurred between 15-19 years of age and was associated with lower GAF and a higher lifetime history of psychiatric features, suggesting an increased burden of illness. Observations underscore the importance of clinical vigilance and early intervention. The fact that cannabis use appears to be the drug of choice may have implications for the clinical course, and requires further study.

As a limitation, this data does not lend itself to addressing the role of individual and family factors related to the risk of SUD in this population. This is a preliminary report of the risk of SUD in the early stages of evolving BD. With longer follow-up, more high-risk offspring may develop SUD which may affect the age of onset and relationship with the clinical course.

REFERENCES