AUTOMATIC ADHD DIAGNOSTIC TEST BASED ON SEGMENTATION OF HEAD AND BODY OF THE CAUDATE NUCLEUS

1. METHOD

External caudate segmentation: is performed using the recently proposed CaudateCut segmentation algorithm [3] especially conceived for the caudate segmentation.

**Internal Segmentation:**
- Head and body separation.
- Feature extraction and SVM Classification
- Decision Stumps
- Decision

**2. Diagnostic Test**

Based on [4], the diagnosis is based on a ratio between right caudate body volume (rCBV) and the bilateral caudate body volume (bCBV), rCBV/bCBV.

**Results**

**Internal Segmentation:**

<table>
<thead>
<tr>
<th>Accuracy</th>
<th>Sensitivity</th>
<th>Specificity</th>
</tr>
</thead>
<tbody>
<tr>
<td>92.05%</td>
<td>92.27%</td>
<td>92.50%</td>
</tr>
</tbody>
</table>

**Diagnostic Test:**

<table>
<thead>
<tr>
<th>Sensitivity</th>
<th>Specificity</th>
<th>OCOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>48.72%</td>
<td>84.62%</td>
<td>0.4828</td>
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</tbody>
</table>

**References**


