A NOVEL ASSOCIATION BETWEEN COMT GENEPOLYMORPHISMS AND RISK OF SYMPTOMATIC DYSPHAGIA IN THE ELDERLY

Disclosure of Interest

These results also demonstrate the importance of genetic factors in the odds of having dysphagia can either be increased or decreased.

1D Nimmons, 2N Pendleton, 3T Payton, 4J Wilkinson, 5S Hamdy. 1Centre for Gastrointestinal Sciences, Institute of Inflammation and Repair; 2Age and Cognitive Performance Research Centre; 3Genomics Research, Imaging, Genomics and Proteomics Research Group, University of Manchester, Manchester; 4Research and Development Department, Salford Royal Hospital, Salford, UK

Introduction

Genetic variants of the enzyme Catechol-O-Methyl Transferase (COMT) have been associated with age related degeneration and changes in dopamine function. Further, COMT gene polymorphisms have been found to interact with other genes in affecting levels of brain plasticity. We hypothesised, given the link with dopamine and brain function, interactions between polymorphisms of the COMT gene would predict dysphagia symptoms in an elderly population.

Methods

800 members of a genetically well characterised community dwelling elderly cohort received the Sydney oro-pharyngeal dysphagia questionnaire (1) via mail. A score of 180 or more was indicative of significant dysphagia. Saliva samples were assessed for COMT polymorphism carrier status. The carrier status of each polymorphism was investigated for association with dysphagia symptoms. Logistic regression analyses were performed in SPSS to investigate whether any of the polymorphisms under consideration were predictive of dysphagia after adjusting for age and gender, in addition to interaction effects between polymorphisms.

Results

683 subjects (80%) returned the questionnaire, 150 were men and 483 women and the mean age was 81.2 years. saliva samples were then analysed for 540 of these subjects and 82 (15%) of these had significant dysphagia with scores ≥180. COMT polymorphisms rs165599 and rs10835211 were found to be associated with dysphagia symptoms with a significant interaction between the two (p = 0.013). The effect of each of these two polymorphisms varied according to the carrier status of the other. In the case of rs10835211, the effect of heterozygosity was protective or harmful dependent on the respective status of rs165599 (Table 1), with rs165599 homozygosity producing a >400% increased risk of dysphagia.

Abstract PTU-128 Table 1

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Adjusted OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>rs165599</td>
<td>0.86</td>
<td>0.39-1.84</td>
</tr>
<tr>
<td>rs10835211</td>
<td>4.35</td>
<td>1.66-11.41</td>
</tr>
<tr>
<td>Interaction</td>
<td>0.21</td>
<td>0.06-0.77</td>
</tr>
</tbody>
</table>

Conclusion

We have found a novel relationship between self-reported symptoms of dysphagia and COMT status of polymorphisms rs165599 and rs10835211. Depending on their carrier status, the odds of having dysphagia can either be increased or decreased. These results also demonstrate the importance of genetic factors in age related problems, such as dysphagia.

Disclosure of Interest

None Declared

REFERENCE


ANAL EVOKED POTENTIALS AT ‘TWITCH’ THRESHOLD: A NEW METHOD FOR EXPLORATION OF ANAL SENSORY FUNCTION

Disclosure of Interest

None Declared

REFERENCE


DOES CHRONIC COUGH PROVOKE INCREASED GASTROESOPHAGEAL REFLUX?

Disclosure of Interest

None Declared

REFERENCE


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