SNORING AND STROKE: A CASE-CONTROL STUDY WITH OBJECTIVE MEASUREMENT OF SNORING

DP DAVIES, J OATES, H RODGERS, OFW JAMES AND GJ GIBSON

Dept. of Medicine, University of Newcastle upon Tyne, UK

Introduction
There is conflicting evidence of an association between snoring and stroke. This may be due to the fact that reported snoring is probably inaccurate. We have performed a further case-control study to assess the effect of snoring in subjects admitted to hospital with a stroke and have performed sleep studies to objectively measure snoring in a subgroup.

Methodology
Snoring histories from 181 patients (M 88:F 93) with a first-ever stroke and individually matched community controls were compared. Of these, 46 pairs (M27:F19) also underwent domiciliary sleep studies (SS) 3 months after the stroke. The Edentracce II sleep system and Infiniti ETS v 2.0 software were used. Snoring was measured in terms of its total duration.

Results
There were no significant differences in BMI (26.1 kgm$^2$ vs 24.4 kgm$^2$) or neck circumference (NC) (39.0 cms vs 37.7cms) for the 181 cases and controls respectively.

<table>
<thead>
<tr>
<th>Cases</th>
<th>Controls</th>
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<tr>
<td>Snoring</td>
<td>Non-Snoring</td>
</tr>
<tr>
<td>16</td>
<td>42</td>
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<tr>
<td>Non-Snoring</td>
<td>29</td>
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The power to detect an odds ratio of 2.0 with a p value of 0.05 was 81%. There were no statistically significant differences for age, BMI and NC either between the 46 cases and controls in group SS or between the group SS and the main study.

Conclusions
The results suggest neither the history nor objective measurement of snoring support a significant association of snoring and first-ever stroke.

LIP AND TONGUE FUNCTION FOLLOWING ACUTE STROKE

DG SMITHARD, PA O’NEILL, C PARK AND R WYATT

Queen Mary’s Hospital, Sidcup and University Hospital of South Manchester

Introduction
Dysphagia may occur in up to 50% of acute stroke patients. This often resolves. 11-20% of patients may have long term problems. We have conducted a prospective study to investigate lip and tongue function following acute stroke.

Methods
Consecutive patients admitted to the University Hospital of South Manchester were recruited within 24 hours of stroke onset. Lip and tongue function were assessed at the Bedside within 3 days of admission, and at day 7, 28 and 6 months by a speech and language therapist (SLT).

Results
121 patients were initially recruited with a median age of 79 (40-93) years. 72 (60%) had a right hemiparesis. 104 were assessed by the SLT. Initially, lip closure did not occur at rest in 34(33%), whilst eating in 31(30%) and whilst speaking in 26(25%). 14(13%) drooled. 19(18%) had abnormal tongue protrusion, 20(19%) lateral and 13(13%) palatal movement. 13(13%) had poor tongue function for eating and 9(9%) for drinking. By 6 months lip closure did not occur in 9(9%) at rest, 10(10%) whilst eating and 7(7%) whilst speaking, 3(3%) drooled. 3(3%) had abnormal tongue protrusion, 6(6%) lateral and 4(4%) palatal movement. 5(5%) had abnormal tongue function during eating, and drinking in 1(1%).

Conclusion
10% of stroke patients stroke had lip and tongue abnormalities at 6 months. Further work is required to investigate their significance.

THE EFFECT OF CONTINUOUS MAGNESIUM INFUSION ON INFARCT SIZE AND OEDEMA IN ACUTE STROKE IN MICE

C. ROFFE$^1$, S WIGGIN$^2$, A FOTHERINGHAM$^3$ AND I DAVIES$^2$

$^1$Dept of Geriatric Medicine, Keele University; $^2$School of Biological Sciences, University of Manchester

Introduction
As a non-competitive N-methyl-D-aspartate (NMDA) antagonist with calcium antagonistic and vasodilator effects, magnesium (Mg) might be expected to have a beneficial role in the treatment of acute ischaemic stroke. Experimental evidence is contradictory, and we have reported that bolus injection of 1 mg/kg Mg after experimental focal ischaemia increases infarct size and oedema in mice. This study was designed to test the hypothesis of administering Mg subeutaneously over 24 h.

Methods
Strokes were induced under halothane anaesthesia in 6 w old C57BL/6 mice by lighting and cauterizing the left middle cerebral artery. There were 2 treatment groups [each n=10] 1 MgCl$_2$ 0.11 mmol/kg i.p bolus plus 1 mg/kg infused s.c over 24 h and 2 matching volumes of saline. After 24 h the animals were sacrificed, the brain sectioned into 330 μm slices, stained with tetrazolium blue and fixed in paraffin/wax. Stroke size and area of oedema were assessed on computer projected images using the ImageJ 2 analyses package.

<table>
<thead>
<tr>
<th>Results</th>
<th>Placebo</th>
<th>Mg</th>
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<tbody>
<tr>
<td>Infarct size (mm$^2$)</td>
<td>15±5</td>
<td>13±5</td>
</tr>
<tr>
<td>Oedema area (%)</td>
<td>3±1</td>
<td>1±6</td>
</tr>
<tr>
<td>Plasma glucose (mmol/dl)</td>
<td>12±17</td>
<td>12±21</td>
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The differences between the groups were not statistically significant. Three brains from each group were examined histologically. There appeared to be more extensive neuronal vacuolization in the saline treated group.

Conclusion
There is no evidence of a detrimental effect of Mg if it is given as a low dose continuous infusion. Furthermore, there appears to be a reduction in infarct size and oedema in the Mg group, but this needs to be confirmed in a larger study.