Patient-completed screening tools have poor diagnostic accuracy for neuropathic orofacial pain in a hospital-based cohort

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Introduction
Diagnosis of orofacial pain (OFP) syndromes is complex due to dental and non-dental overlap and simultaneous manifestations in one patient.

The Oregon Health and Science University questionnaire (OHSU) is a 22-question tool used to recognise orofacial pain syndromes (McCartney et al. 2014). The PainDETECT questionnaire (PD-Q) scores patients on their likelihood of having neuropathic pain components (Freyhagen et al. 2006).

Screening Result
- A neuropathic pain component is unlikely (< 15%)
- A neuropathic pain component is likely (> 90%)
- Result is ambiguous, however a neuropathic pain component can be present

Table 1 | Diagnostic accuracy of the OHSU. 88 of 139 (63%) patients were correctly diagnosed by the OHSU. The diagnostic accuracy of the OHSU is presented for the three most common diagnoses in at our centre. TN, trigeminal neuralgia; TMD, temporomandibular disorder, TNP; trigeminal neuropathic pain.

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Prevalence</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>PPV</th>
<th>NPV</th>
</tr>
</thead>
<tbody>
<tr>
<td>TN</td>
<td>32%</td>
<td>84% (69-93)</td>
<td>59% (48-69)</td>
<td>49% (37-60)</td>
<td>89% (78-95)</td>
</tr>
<tr>
<td>TMD</td>
<td>32%</td>
<td>48% (33-63)</td>
<td>86% (78-93)</td>
<td>62% (44-78)</td>
<td>78% (69-86)</td>
</tr>
<tr>
<td>TNP</td>
<td>8%</td>
<td>27% (6-61)</td>
<td>95% (90-98)</td>
<td>33% (7-70)</td>
<td>94% (88-97)</td>
</tr>
</tbody>
</table>

We aimed to determine and compare the diagnostic accuracy of the OHSU and PD-Q for recognition of OFP in a hospital based cohort.

Methods
A prospective diagnostic study was conducted at a Facial Pain academic unit in London, United Kingdom. After referral, and prior to their first appointment, patients were assigned either the OHSU or the PD-Q to complete.

The primary outcome was the accuracy of each screening tool for recognising OFP syndromes. The secondary outcome was the factors associated with diagnostic accuracy.

Results

- 172 of 251 (69%) patients were correctly diagnosed by the PD-Q. Using a Kruskal-Wallis test, PD-Q scores were not significantly different between groups when adjusted for pairwise comparisons. Dual diagnosis was associated with poorer diagnosis of the PD-Q.

Summary
The is the first prospective study comparing diagnostic accuracy of patient-completed screening tools for OFP. These have a low diagnostic accuracy, underestimating the complexity of OFP. Tools must be revalidated in appropriate target populations prior to clinical use.

References