

Background

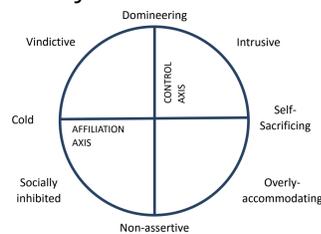
Interpersonal difficulties in major depression

Interpersonal dysfunction is a core component of depressive illness and interpersonal difficulties may recover more slowly than symptoms. Interpersonal dysfunction will impact on social functioning – a key outcome measure for psychiatric neurosurgery.

The IIP-64¹ is a self-report measure of difficulties that people experience in their social relationships. It consists of 39 items relating to interpersonal behaviours that respondents find hard to express and 25 items addressing behaviours that they find difficult to inhibit.

Interpersonal circumplex

The IIP-64 measures difficulties in 8 areas relating to 'control' and 'affiliation', known as the 'interpersonal circumplex' (see right).



Methods

We administered the IIP-64 at baseline and at 12-months to 15 patients (1 male, 14 female) who underwent bilateral anterior cingulotomy for chronic treatment refractory depression. 'Response' was defined as $\geq 50\%$ improvement on the 17 item Hamilton Rating Scale for Depression (HSRD-17).

Scores on the IIP-64 were 'ipsatised' by subtracting the individual's mean scores from each response on other items in the questionnaire in order to compensate for uniform response bias. Scores were compared for each domain between baseline and 12-months for responders and non-responders and on total scores. We also examined changes in score on the IIP-64 in relation to changes in symptom burden. Statistical analysis was performed using R.²

Results

Patient characteristics and clinical outcome

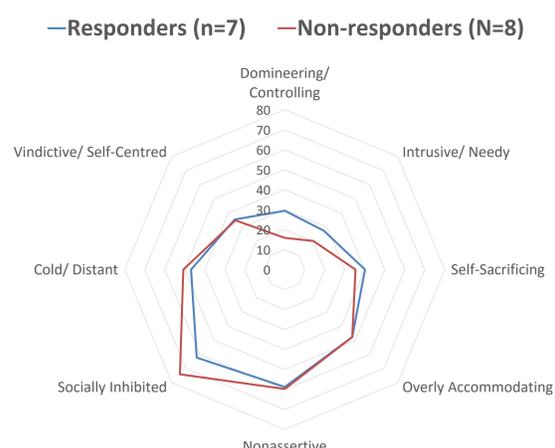
Participants were all experiencing their first ablative neurosurgical procedure as treatment for chronic, refractory depression, although five (33.3%) had previously failed to respond to prolonged, optimised trials of vagus nerve stimulation (VNS). The mean age at time of surgery was 48.9 ± 8.3 years. The mean duration of the current depressive episode was 16.2 ± 7.0 years. The mean baseline HSRD-17 score was 28.5 ± 5.0 .

12-months after surgery, seven patients (46.7%) were responders and eight (53.3%) were non-responders.

There were no statistically-significant differences between responders and non-responders at baseline on measures of symptom severity ($p=0.349$) or overall interpersonal functioning ($p=0.378$).

Interpersonal functioning at baseline

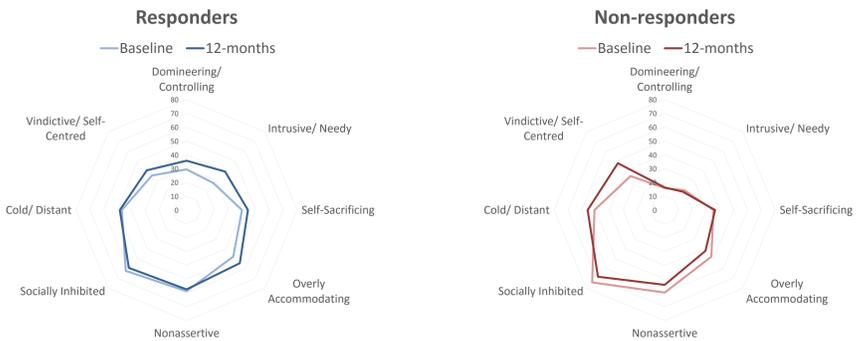
The IIP-64 profiles of responders and non-responders is shown below.



Although non-responders had numerically greater scores on the 'socially-inhibited' domain and lower scores on the 'domineering-controlling' domain, these differences weren't statistically significant.

Changes in IIP-64 12-months after cingulotomy

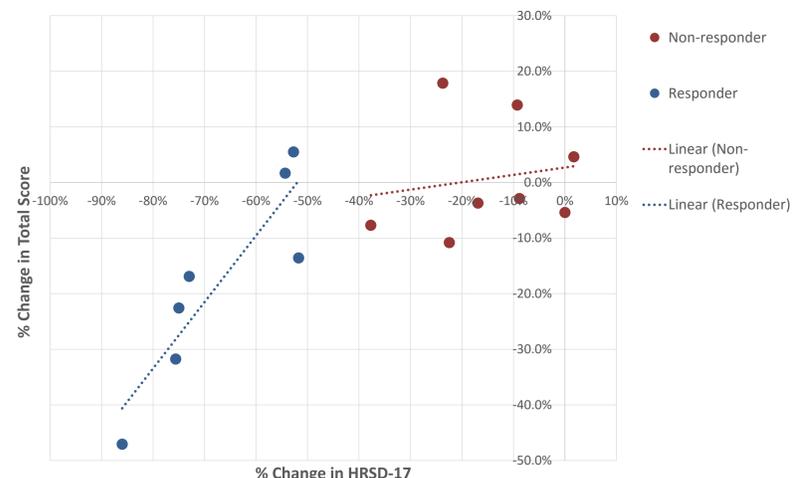
The pre- and post-scores for responders and non-responders are shown below (in each case, 12-month scores are darker).



Although there was an increase in 'intrusive/needy' (reflecting increases in both affiliation and control) for responders, these changes were not statistically significant. Similarly, although there was an increase in 'vindictive / self-centred' for non-responders, these changes were not statistically significant.

Relationship to symptom change

Across the whole group, there was a robust relationship between change on the HSRD-17 at 12-months and change on the IIP-64 Total T Score, with those showing greatest symptom improvement having the greatest improvement in interpersonal functioning (Pearson's $r=0.645$; $p=0.009$). Non-responders showed little improvement, but also no deterioration, in interpersonal functioning.



Baseline T-scores did not correlate with % change in depressive symptoms at 12-months ($r=0.264$, $p=0.341$).

Discussion

- There is an emerging relationship between improvements in depressive symptoms and changes in interpersonal functioning.
- We found statistically-significant relationships between symptom reduction and improvement in interpersonal functioning, as measured by the IIP-64.
- There was no evidence of consistent deterioration in interpersonal functioning; even in non-responders.
- At baseline, responders and non-responders differed in their profiles of interpersonal styles. This may be helpful in identifying patients who may benefit from additional interventions peri-operatively to maximise the likelihood of a favourable response.
- However, it is not possible to determine if changes in interpersonal functioning pre-date improvements in mood. The observation that non-responders don't experience as much change in interpersonal functioning would suggest that symptomatic improvement is necessary for improvements in interpersonal functioning.
- Prospective monitoring of interpersonal functioning using the IIP-64 may be, therefore, a useful tool in assessing outcome following neurosurgical treatment of depression and may have some predictive utility.

