EMDR therapy in Treatment Resistant Depression (TRD) in-patients: clinical and biomarkers efficacy

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Trauma and psychiatric disorders

Traumatic experiences significantly increase the risk of developing mental illness.
Major Depressive Disorder

MDD represents up to 11% of YLDs (years lived with disability), making it the leading chronic condition in Europe.
Treatment Resistant Depression

• 1/3 of MDD patients experience full remission after first-choice antidepressant.
• Many patients require repeated trials for achieving remission.
• About 30% of MDD patients are classified as having treatment-resistant depression (TRD).
Economic burden of MDD and TRD

The total economic burden of MDD is estimated to be US$210.5 billion a year.

MDD has a major impact on people during their most productive years.

People with severe form of MDD have more physical illness and shorter life expectancy.
Economic burden of MDD and TRD

Don't underestimate the socio-economic impact of depression
Clinical features and TRD

- Presence of psychotic symptoms
- Comorbidity with personality disorders
- Comorbidity with anxiety disorders
- Risk of suicide
- Low age of onset
- Non-response to the first antidepressant
- Recurrence of depressive episodes
- Low level of education
- Presence of traumatic experiences

Clinical features and trauma

- Presence of psychotic symptoms
- Comorbidity with personality disorders
- Comorbidity with anxiety disorders
- Risk of suicide
- Low age of onset
- Non-response to the antidepressants
Trauma and TRD

TRAUMA a trigger for TRD

Negative clinical predictors
EMDR and TRD in-patients

Project “Eye Movement Desensitization and Reprocessing (EMDR) therapy in Treatment Resistant Depression (TRD) in-patients: clinical and biomarkers efficacy”
Project aims

- to give to TRD patients a psychotherapeutic path focused on trauma without any costs for patients and their family
- to test trauma-focused psychotherapies in TRD patients
- to investigate the biological mechanisms underlying trauma-focused psychotherapies in TRD patients
Biological mechanisms

Stress, Traumas and Affective Deprivation leaving a Mark
Biological mechanisms
Epigenetics

- Gene-environment interaction
- Chromatin modification, DNA methylation ...
Epigenetics

- Trauma could result in alterations in functional gene networks that lead to brain disease
- Epigenetic processes are potentially reversible pointing to epigenetic therapeutics in psychotherapy (Szyf 2014).
Response to psychotherapy in borderline personality disorder and methylation status of the *BDNF* gene

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Step 1: Recruitment of TRD in-patients

- Inclusion criteria:
  a) diagnosis of MDD

- Exclusion criteria:
  a) mental retardation or cognitive disorder;
  b) a lifetime history of schizophrenic, schizoaffective, or bipolar disorder;
  c) personality disorders, substance abuse, alcohol abuse or dependency, obsessive compulsive disorder, post-traumatic stress disorder, as primary diagnosis;
  d) comorbidity with eating disorders.
Step 1: Recruitment of TRD in-patients

- TRD is defined as at least the failure of the patient to respond to two or more adequate trials of two or more different classes of antidepressants.

- All participants need to have experienced at least three documentable traumatic events over their lifetime, which are still causing a clinically relevant distress.
Patients receive 3 individual sessions per week, lasting 60 min each over a period of 8 weeks in addition to drugs treatment-as-usual.
Step 3: 1\textsuperscript{st} evaluation

- Symptomatological assessment:
  a) Montgomery-Åsberg Depression Rating Scale (MADRS)
  b) MINI-ICF-APP
  c) Beck Depression Inventory II (BDI-II)
  d) Beck Anxiety Inventory (BAI)
  e) Pittsburgh Sleep Quality Index (PSQI)

*Psychological evaluations are performed blind to the EMDR and TF-CBT therapists.*

- Blood samples collection for DNA, mRNA, serum, plasma.
- Beginning of psychotherapy.

\[\text{HOSPITALIZATION}\]
Step 4: 2\textsuperscript{nd} evaluation

- Symptomatological assessment
- Blood samples collection
- Continuation of psychotherapy
Step 5: 3rd evaluation

- Symptomatological assessment
- Blood samples collection
- Finish of psychotherapy
- Finish of admission in hospital
Step 6: 4th evaluation

- Symptomatological assessment
- Blood samples collection
Step 7: 5th evaluation

- Phone interview for clinical assessment
## Preliminary results

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>EMDR group (N=7)</th>
<th>TF-CBT group (N=4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years), mean (SD)</td>
<td>54.0 (12.3)</td>
<td>56.0 (8.8)</td>
</tr>
<tr>
<td>Gender (%F)</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Education (years), mean (SD)</td>
<td>12.7 (4.1)</td>
<td>10.0 (2.4)</td>
</tr>
<tr>
<td>% of smokers</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>Age of onset (years), mean (SD)</td>
<td>32.3 (12.9)</td>
<td>41.0 (19.0)</td>
</tr>
<tr>
<td>% of recurrent MDD</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>% of severe vs. moderate MDD</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>% of presence of psychotic symptoms</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>% comorbidity with personality disorders</td>
<td>70.0</td>
<td>50.0</td>
</tr>
<tr>
<td>% comorbidity with anxiety disorders</td>
<td>60.0</td>
<td>80.0</td>
</tr>
<tr>
<td>% comorbidity with alcohol abuse</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>% PTSD</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>% of psychiatric disorders among the first-degree relatives</td>
<td>90</td>
<td>100</td>
</tr>
</tbody>
</table>
# Preliminary results

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<th>Characteristics</th>
<th>EMDR group (N=7)</th>
<th>TF-CBT group (N=4)</th>
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<tr>
<td>Trauma CECA-Q: %Mother antipathy (hostility, coldness..)</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Father antipathy (hostility, coldness..)</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Mother neglect</td>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Father neglect</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Physical abuse mother</td>
<td>10</td>
<td>80</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Physical abuse father</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Trauma CECA-Q: %Sexual abuse</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>N° of childhood stressful life events, mean (SD)</td>
<td>3.1 (1.8)</td>
<td>2.8 (1.5)</td>
</tr>
<tr>
<td>N° of adult stressful life events, mean (SD)</td>
<td>4.4 (0.8)</td>
<td>6.0 (1.4)</td>
</tr>
</tbody>
</table>
Preliminary results

MADRS

T0  T4  T8  T12

N=4  N=4  N=4

N=7  N=7  N=7

EMDR  TF-CBT
Preliminary results

MADRS

- EMDR
- TF-CBT
Preliminary results
Preliminary results
Preliminary results
Preliminary results

PSQI

N=4

N=4

N=3

N=7

N=7

N=7

T0  T4  T8  T12

EMDR - TF-CBT
Preliminary results: Relapse

TF-CBT
N=2
100%

EMDR
N=4
25%
EMDR MAIN EFFECT

I’m really changed
(I’m not the same person anymore)

Ik ben echt veranderd
(Ik ben niet meer zoals ik vroeger was)
acknowledgement

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Contact for questions and collaborations

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