Emotion Regulation, Conversive Disorder and EMDR

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Emotion regulation and dissociation
**Table 1:** Main findings linking the different clinical conversion manifestations with their associated neurobiological and physiological patterns, as well as emotion regulation predominant strategies.

<table>
<thead>
<tr>
<th>Conversion symptoms</th>
<th>Clinical subtypes</th>
<th>Neurobiological pattern</th>
<th>Physiological predominant pattern</th>
<th>Emotion regulation predominant strategy</th>
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</thead>
<tbody>
<tr>
<td>Motor loss</td>
<td>Paralysis and paresis</td>
<td>Global frontal hyperfunction with reduced connectivity between dIPFC and premotor areas. Increased activation in OFC and ACC.</td>
<td>Hipoarousal at baseline, associating decreased habituation. Low basal sympathetic tone.</td>
<td>Overregulation of affect</td>
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<tr>
<td>Immobility/ freezing</td>
<td>Attentional freezing/ aware immobility</td>
<td>Increased dopaminergic transmission at mesolimbic circuits and at the bed nucleus of the stria terminalis. Increased cannabinoid and noradrenergic transmission.</td>
<td>Sympathetic activation. Hyperarousal state. Sympathetic activation. Hyperarousal state.</td>
<td>Overregulation of affect. Underregulation of affect Cycling between under- and overregulation strategies</td>
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<td>Immobility/ freezing</td>
<td>Fight or flight freezing</td>
<td>Increased dopaminergic transmission at mesolimbic circuits and at the bed nucleus of the stria terminalis. Increased cannabinoid and noradrenergic transmission.</td>
<td>Hyperarousal state. Hyperarousal state.</td>
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<td>Tonic immobility/ immobility with fear</td>
<td>Amygdala hyperactivation causing frontal lobe disinhibition and projecting to the PAGM (it activates the reticular ascending system and inhibits spinal cord motor neurons).</td>
<td></td>
<td>Simultaneous parasympathetic and sympathetic activation Hypo/ hyperarousal; Arousal instability. Dorsovagal parasympathetic activation.</td>
<td>Overregulation of affect. Underregulation of affect Cycling between under- and overregulation strategies</td>
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<td>Fainting and atonic immobility</td>
<td>Endogenous opioids release (autoanalgesia) that activates vPAGM and its connections to the medulla and the OFC.</td>
<td></td>
<td></td>
<td>Overregulation of affect.</td>
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<td>Sensorial loss</td>
<td>Anesthesia, deafness, blindness and aphony</td>
<td>OFC and dIPFC hyperfunction, as well as other frontal and limbic areas show similar hyperactivity. Sensory cortical areas deafferentation.</td>
<td>Initial hyperreactivity, activating top-down inhibitory responses later on. Hypoarousal.</td>
<td>Overregulation of affect.</td>
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<td>Positive motor conversion</td>
<td>Tremor, gait disturbances and abnormal movements</td>
<td>Increased amygdala-supplementary motor area connectivity.</td>
<td>Sympathetic activation. Hyperarousal state.</td>
<td>Underregulation of affect. Underregulation of affect</td>
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<td>Pseudoseizures</td>
<td>Pseudoepileptic seizures</td>
<td>Hyperconnectivity between the insula, inferior frontal cortex, parietal cortex and precental sulcus. Desynchronization and decoupling between cortical areas.</td>
<td>Sympathetic activation. Decreased parasympathetic tone. Hyperarousal.</td>
<td>Underregulation of affect.</td>
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</table>
More information:


Emotion regulation

- Internal and external processes
- Monitorize, valuate and modify our emotional reactions to achieve our goals (Thompson)
- Authomatic vs conscious
Adaptive and desadaptive emotion regulation (Gross)

Adaptive

Emotion disregulation
- Evitation
- Suppression
- Repression
Brain structures involved in emotion regulation

Trauma induces a deficiency in the orbito-frontal system (amygdala regulation)

Prefrontal lobe is related to reflective and metacognitive capacities

Some prefrontal areas are involved in emotion regulation (top-down)
Emotion regulation: beyond the tolerance window

**Modulation** of emotional responses (both positive and negative emotions)

**Automatic** (unconscious) and **explicit** (conscious) processes

**Connection** with emotions

**Awareness** of emotional states

**Dysfunctional strategies:** Suppression, avoidance

**Reduction** of intense emotional states

**Activation** in underarousal states
Top-down regulation: over and underregulation

**UNDERREGULATORY STRATEGIES**

Extreme emotional lability, letting emotions without any control (affective inertia): I don’t know what to do with my emotions, I cannot do anything with them

**OVERREGULATORY STRATEGIES**

Excessive control on emotions: I don’t want to feel this, or I don’t want to feel anything
Lanius et al, 2010

Undermodulation
Reexperiencing

Brain regions involved in emotion regulation and arousal
Anterior cingulate
mPFC
Insula
Amygdala

Regions involved in body awareness

Overmodulation
Dissociation
<table>
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<tr>
<th>Disorders</th>
<th>Alterations</th>
<th>In therapy</th>
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<td>Undercontrolling strategies</td>
<td>Prefrontal ↓ Amygdala ↑</td>
<td>When “go with that is not enough”</td>
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<tr>
<td>PTSD</td>
<td>Hyperemotionality</td>
<td>The therapist should “train prefrontal activity”</td>
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<tr>
<td>BPD</td>
<td>Patients do not know what to do with their emotions</td>
<td>Change compensatory strategies</td>
</tr>
<tr>
<td>Overaroused DD</td>
<td>Compensatory strategies: evitiation, external regulation</td>
<td></td>
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<tr>
<td>Overcontrolling strategies</td>
<td>Prefrontal ↑ Amygdala ↓</td>
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<td>Dissociative TEPT</td>
<td>Hypofunctioning (underarousal) or hyperfunctioning amygdala (attempt of cognitive control on overarousal)</td>
<td>The therapist promotes connection and/or modulates cognitive intervention on emotions</td>
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</tbody>
</table>
Brain-body interaction

Brain
(top-down regulation, conscious and unconscious prefrontal control)

Body
(bottom-up regulation, visceral feedback)
Polivagal theory (Porges)

Environment

Central nervous system

Safety
- PSNS
- Ventro-vagal
- Social engagement
  - Eye contact, facial expression, prosody

Danger
- PSNS
- Dorso-vagal
- SNS

Threat
- PSNS
- Reactive defensive systems
  - (collapse, feigned dead, inmobility)

Proactive defensive systems
- Fight/flight/attachment cry
Levels of processing

- Prefrontal cortex:
  - Reflection
  - Control
  - Regulation

- Limbic system:
  - Emotion

- Sensorimotor responses:
  - Body sensation
  - Visceral feedback
Auto and heterorregulation: emotional resonance

Emotion regulation is interactive in human beings.

I need to be aware of my emotions and differentiate them from other’s emotions.
Emotion regulation in phase 1

Is **social engagement** a source for emotion regulation or a traumatic trigger?

There is **hyper or under-arousal** at a basal functioning level?

Are emotion regulation strategies based on **over or under-control**?

There is **avoidance or suppression** usual styles for coping with emotions?

How is the patient looking at the self and at the different emotions?
Where do we learn emotion regulation? Exploring it from attachment experiences
Growing in early trauma: chronic hyper and hypo arousal

Alert
Danger detection
Hyperreactive

Collapse, paralysis
Giving up, submission
Over and undermodulation

OVERMODULATION OF EMOTIONS

UNDERMODULATION OF EMOTIONS
Learning emotion regulation
The safe place

Is the secure basis of a good enough caregiver
Positive Cognitions and Self-care patterns
Regulating all the different emotional states
Where do we learn emotion regulation?

Reflections from a clinical case
Questions?

Contact us: anabelgonzalez@outlook.com
Remember:
next year

18th EMDR
Europe
Conference

Barcelona

June 30th – July 2th 2017