

## BRAINSTORMING SESSIONS

## BS.4 Consolidation and reconsolidation interventions in the 'golden' hours after trauma

# Going for 'gold' in PTSD intervention

Intervention strategies following traumatic events was one of the topics discussed during a brainstorming session that took place on Monday at the ECNP Congress, with a particular focus on examining the crucial time window after trauma that may prove vital in improving the long term outcomes of patients at risk of developing stress-based disorders.

Hosted by experts Harm Krugers (Swammerdam Institute for Life Sciences, University of Amsterdam, the Netherlands) and Eric Vermetten (Central Military Hospital, University Medical Centre Utrecht, the Netherlands), the session served as a forum for both cutting-edge updates and frank discussion. Under examination was consolidation and reconsolidation, and the benefits that memory intervention can have on post-traumatic stress disorder (PTSD) and other negative outcomes.

Speaking to *ECNP Daily News* in advance of the session, Dr Krugers offered some background as to what he hoped to explore: "Consolidation and reconsolidation

can be seen as at least an opportunity to target fear and fear-related memories," he said. "That's an important concept that has developed over the past years. It has been tested in animal studies, and to some extent in human studies. Some of these studies are promising, some of them are less promising. So I think the point that might come up is what might be some important aspects that determine whether the therapies are feasible and can be successful, and what are the boundary conditions?"

"More data is required, and also more test conditions. I think another point that is very important is that it has been tested to a large extent in healthy animals and healthy humans. What will be important is, does it work in people that suffer from fear-related memories and PTSD? Actually these people might respond completely differently to treatment when compared to healthy individuals. To a large extent that has not been studied, at least not in detail."

As is reflected in the title of the

brainstorming session, the 'golden' window of time that follows immediately after any traumatic event is something that has attracted much attention. Paradoxically, while intervention during this time may prove to be crucial, PTSD symptoms are slow with their onset, and thus it is difficult to confidently say who will be most in need of treatment. "Typically you cannot diagnose PTSD in the first four weeks following exposure," said Dr Vermetten.

He added: "Or it could be the late type of PTSD which only manifests itself after six months or later. In my population I work with military personnel, and there are also contextual variables of stigma or denial, so symptoms may only surface years later... and it doesn't mean that the biology will respond accordingly. We think that the biology will need to be treated in the moment of the consolidation and reconsolidation."

In typical emergency care practise, Dr Vermetten

stressed that approximately 10-15% of people would be expected to develop a form of clinical disorder following a traumatic experience. Thus it is extremely difficult to gauge what the target population is. That being said, there are of course populations that are expected to be higher risk, such as the armed forces. "Soldiers are exposed to a high risk environment, so



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while you do not know who will develop PTSD, you know that they are a group that is very likely to develop PTSD based on the traumatic events they have been exposed to," said Dr Vermetten.

models in other settings, such as car accidents, are still sound. "It's translational and well validated, but in a clinical case condition it is not yet tested well enough," he said.

It is clear that while promising, there is still much to consider in order to capitalise on the 'golden' window after trauma. By exploring candidate compounds and potential receptor targets, the brainstorming session formed a collaborative effort to crack the complex shell of the topic – a shell composed of many outstanding questions and issues. "Issues like dosing," said Dr Vermetten, "i.e. how much, what exactly is the golden window (minutes, hours?), and how we need to define the population. Is it predominantly males, females, children? What are the clinical or demographic variables that we need to take into account when we design the study? For this brainstorming session, it is good to educate people but also to give some challenges as to what criteria the design needs to have in order to execute a study."

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With this in mind, the military population would represent an ideal choice for extended study, but once again, paradoxically, a volatile, dangerous military environment would most likely preclude the chance for clinicians to be physically present during or shortly after the respective trauma.

Despite this limitation, Dr Vermetten stressed that extrapolation of intervention