

4th International Conference on

Forensic Research & Technology

September 28-30, 2015 Atlanta, USA

Neuroanatomical correlates of posttraumatic stress disorder, should organic changes be involved in the definitive diagnosis?

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Background: Studies imposing rigorous control over lifetime alcohol intake have usually not found smaller hippocampal volumes in persons with posttraumatic stress disorder. Because the majority of negative studies have used adolescent samples, it has been suggested that chronicity is a necessary condition for such findings. We have hypothesized that the volumes of hippocampus, amygdale, prefrontal cortex and the intracranial volume are reduced in the patients with PTSD and excessive alcohol intake.

Patients & Methods: Study has been carried out on 54 therapies naive PTSD suffering subjects and healthy controls divided in two groups: 29 with PTSD and consequent alcoholism, 25 with PTSD but without problems of excessive alcohol intake and 25 healthy volunteers. All the patients underwent same MRI protocol and volumetric evaluation of the region of interest.

Results: Only hippocampal volume appeared to be significantly reduced in patients with PTSD and alcoholism. Other differences in the volumes obtained remained to be insignificant.

Conclusion: Alcohol intake definitely worsens the deterioration of the hippocampal formation in PTSD suffering patients. Hippocampus, on the first place is the structure affected by PTSD and its volume decrease indicates the severity of the illness.

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Determining removal of forensic artefacts using the USN change journal

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Programs which remove forensic artefacts can be a hindrance to forensics investigators and proving their use can often be difficult as can the use of “private browsing” modes available in many Internet browsers. In this paper we examine the ways in which the Update Sequence Number (USN) journal file can be used to show signs that such software or modes of operation have been used. The USN journal provides, when NTFS journaling is enabled, a list of transactions relating to files on the volume. This includes a list of all file creations, renames and deletions. By examining this journal after the use of common programs designed to remove artefacts or prevent artefacts from being created, we can see that there are patterns within the journals which can be used to detect such activity. Specifically references to the creation of or access to prefetch files for the Internet Explorer browser and large numbers deletions are consistent with In private browsing being used. The use of the CCleaner software also creates distinctive patterns within the USN journal.

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