Case of amnesia linked to root canal treatment

By DTI

LEICESTER, UK: In March 2005, a 38-year-old British soldier stationed in Germany lost his ability to form new memories after undergoing a regular root canal treatment. To this day, he is unable to remember anything for longer than 90 minutes, although his brain is completely intact and he suffered no trauma that could have caused the amnesia, according to his doctors.

“I remember getting into the chair and the dentist inserting the local anaesthetic,” the man, who wishes to remain anonymous, told the BBC. Since that moment, he remembers nothing. Every morning, he wakes up thinking that he is still a soldier stationed in Germany in 2005, waiting to visit the dentist for root canal surgery.

The German dentist only realised after the treatment, which was without complications, that something was wrong with the patient. He was pale, disoriented and struggled to stand up. As his condition did not improve, he was brought to hospital where he stayed for several days. In the beginning, he was not able to remember anything for longer than a few minutes.

The doctors’ first suspicion was that a bad reaction to the anaesthetic had caused a brain haemorrhage. However, they could not find any evidence of injury. Finally, the patient and his family returned to England, where Dr Gerald Burgess, a clinical psychologist from Leicester, took over the case.

According to Burgess, a form of anterograde amnesia would have been the most obvious explanation for the man’s condition. In this case, the hippocampi, the brain regions responsible for the consolidation of information from short-term memory to long-term memory, are damaged so that memories can no longer be formed and stored correctly. Yet, the man’s brain scans showed no abnormalities. Thus, another possible explanation would have been a psychogenic illness. Burgess conducted detailed psychiatric assessments in order to determine whether the man had suffered any trauma. However, Burgess found that his patient was emotionally healthy and his wife confirmed that there had not been any traumatic events in the man’s life prior to his dentist visit in 2005.

Burgess continues to research his patient’s rare case of amnesia, currently suspecting that the brain’s synapses might play an important role. Each time a memory is formed and transferred to long-term memory, the synapses are rebuilt, which involves the production of new proteins. This protein synthesis might be blocked in the case of Burgess’ patient, keeping him from generating any new long-term memories. In order to further research his hypothesis, Burgess is examining five similar cases of mysterious memory loss without brain damage from the medical literature. These cases might provide an answer to why the root canal treatment appears to have triggered the man’s memory loss. All these cases are in some way related to a period of psychological stress during a medical emergency. “It could be a genetic predisposition that needs a catalyst event to start the process,” Burgess told the BBC.

“One of our reasons for writing up this individual’s case was that we had never seen anything like this before in our assessment clinics, and we do not know what to make of it, but felt an honest reporting of the facts as we assessed them was warranted, that perhaps there will be other cases, or people who know more than we do about what might have caused the patient’s amnesia,” Burgess stated.

The case report by Burgess, titled “Profound anterograde amnesia following routine anesthetic and dental procedure: A new classification of amnesia characterized by intermediate-to-late-stage consolidation failure?”, was published online in the Neurocase journal on 15 May.
“I do not see how the situation can improve”

An interview with Dr Stefanos Morfis, Greece

Educated in Manchester and a dentist at heart, Dr Stefanos Morfis opened his first practice in Athens five years ago, right at the beginning of the debt crisis in Greece. Five years later, he is selling it owing to the economic circumstances and is planning to register with the General Dental Council in order to start working as a dentist in Britain. Dental Tribune had the opportunity to speak with him recently about the situation of dentists in his home country and the reasons he has chosen to leave.

Dental Tribune: Dr Morfis, with the recent referendum on the austerity measures proposed by the EU and the resignations of Minister of Finance Yannis Varoufakis, the debt crisis in Greece has heated up again. Can you describe what impact the crisis has had on dentistry in your country?

Dr Stefanos Morfis: When one looks back 10–15 years, dentistry actually used to be quite a prosperous profession in countries like England, Germany or the Netherlands, the level of demand in Greece, they travel to other countries, like Macedonia, where they receive cheaper, but lower quality, treatment. Recently, I heard of two patients who died after undergoing a tooth extraction there.

Owing to the lack of money for treatment, caries levels are very high and, although we are fully aware of its benefits, there is very little money for any kind of preventative dentistry. This is only done at university level because of their financial situation and they only go when they are already in pain.

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European Commission alters opinion on dental amalgam

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BRUSSELS, Belgium: Many countries around the world, European countries in particular, have seen a shift away from the use of dental amalgam in oral health care and an increase in the use of alternative materials over the past years. The European Commission recently acknowledged this trend and published an updated version of its opinion on the safety of dental amalgam and alternative restoration materials.

The new document is an update of the 2008 opinion and aims to assess the safety and effectiveness of dental amalgam and current alternative materials by evaluating the latest scientific evidence.

While in 2008 the European Commission and the Scientific Committee on Emerging and Newly Identified Health Risks concluded that both types of material are generally considered safe to use, they now recommend that the choice of material be based on patient characteristics. In accordance with the objectives of the Minamata Convention on Mercury, the committee now recommends using alternative materials in children and pregnant women.

The committee further stated that the systemic effects of elementary mercury are well documented and it has been identified as a neurotoxin, especially during early brain development by a number of studies. Mercury has also been associated with adverse health effects in the digestive and immune systems, and in the lungs, kidneys, skin and eyes. Nevertheless, the evidence for such effects due to dental amalgam is weak, according to the committee.

The new recommendation is also based on the findings that dental amalgam fillings may cause mercury poisoning in genetically susceptible populations. Some genetic variants appear to impart increased susceptibility to mercury toxicity from dental amalgam.

Studies involving dental health care personnel have indicated that mercury exposure from dental amalgam during placement and removal may cause or contribute to many chronic illnesses, as well as depression, anxiety and suicide. However, exposure of both patients and dental personnel could be minimized by the use of appropriate clinical techniques, the committee stated in its opinion report.

European Commission alters opinion on dental amalgam
Update recommends use of alternative materials for dental fillings

However, current evidence does not preclude the use of either amalgam or alternative materials in dental restorative treatment.

The committee acknowledged that there is a need for further research, particularly with regard to neurotoxicity of mercury from dental amalgam and the effect of genetic polymorphisms on mercury toxicity. In addition, the committee concluded that there is a need for the development of new alternative materials with a high degree of biocompatibility. The full report, titled “The safety of dental amalgam and alternative dental restoration materials for patients and users,” can be accessed on the website of the Scientific Committee on Emerging and Newly Identified Health Risks.