



K38 A Multi-Drug Fatality Involving the Highest Reported Level of Venlafaxine in London, UK

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Attendance at this presentation will enable the participant to study a British toxicological case involving alcohol and several other drugs including the highest recorded level of venlafaxine in London. The presentation will also enable the participant to learn how such cases are processed by the Forensic Toxicology Service in London, UK.

The case is an interesting one as it is the first multi-drug case involving such high concentrations of venlafaxine, in addition to a significant amount of alcohol, paroxetine, paracetamol and some tricyclic antidepressant drugs too. Considering the lack of any other significant autopsy findings, the results of our toxicological analyses are consistent with the assumption of a fatal overdose of alcohol and several drugs, including the highest measured levels of venlafaxine in the London area.

The Forensic Toxicology Service offers a screening and quantification toxicology service to most of Her Majesty's Coroners and Forensic Pathologists in London as well as various Police Forces and one branch of the Armed Forces. As a result, we are required to screen for a large number of prescribed and illicit drugs in post-mortem specimens followed by quantification of those detected. All analyses must be completed and our final report must be submitted to the Courts within 15 business days of the arrival of the case at the Service. This case was presented to the Service in May 2003, and involved a 50-year-old Caucasian female who had a history of mild depression during the previous 2 years and who had previously made two unsuccessful suicide attempts involving drug overdosing during the preceding two months. The Service was requested to subject the unpreserved post-mortem blood specimen of the deceased to our standard alcohol and general drug screen in order to facilitate HM Coroner in his Inquest into this death.

The blood alcohol was determined at a level of 174mg/dL. Paracetamol (i.e., acetaminophen) was found present at a concentration of 55mg/L but no salicylates were detected in the case specimen. Our benzodiazepine screen by LC-MS-MS on this specimen did not detect any benzodiazepines or metabolites. Using our standard liquid-liquid drug extraction scheme for basic (i.e., alkaline) drugs followed by gas chromatography – mass spectrometry (GC/MS), we were able to identify in the case specimen venlafaxine and its major metabolite, in addition to paroxetine, amitriptyline and nortriptyline. When quantified by GC/MS, venlafaxine measured 139.0mg/L and paroxetine measured 7.0mg/L. HPLC with UV detection was used to quantify amitriptyline and nortriptyline, which measured at 3.2mg/L and 0.9mg/L, respectively.

Venlafaxine is readily prescribed in the United Kingdom to treat depression under the trade name Effexor® tablets (37.5, 50 or 75 mg) and Efexor® XL modified release capsules (75 or 150 mg). Paroxetine is prescribed in the United Kingdom to also treat depression as well as obsessive-compulsive disorder and panic disorder under the trade name Seroxat® in tablets (20 or 30 mg) or liquid (10mg/5mL). Recently, there has been considerable debate regarding its safety. Amitriptyline continues to be a commonly prescribed sedative antidepressant in the UK on its own (non-proprietary as 10, 25 or 50 mg tablets), or in combination with perphenazine (Triptafen®, Triptafen®-M). Nortriptyline is also used to treat depression under the trade name Allegron® as 10 or 25 mg tablets or in combination with fluphenazine (Motipress® and Motival®).

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Venlafaxine, Paroxetine, Multi-Drug Fatality