TURJOEM
The Turkish Journal of Occupational / Environmental Medicine and Safety

Vol:2, No:1 (1), 2017 Web: http://www.turjoem.com ISSN : 2149-4711

P195. QUANTITATIVE DETERMINATION OF SERUM CLOMIPRAMINE BY TANDEM MASS SPECTROMETRY

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Therapeutic drug monitoring of antidepressants and antipsychotics is necessary for an optimal supervision of patients and their drug therapy to avoid medical complications, intoxication, nonresponsiveness or noncompliance. The aim of this work was to develop a simple, fast and accurate liquid-chromatography-mass spectrometry method for determination and quantification of serum clomipramine.

For serum clomipramine measurement, 200 µL of internal standard (acetaminophen solution) was added to 200 µL serum in a glass tubes. Tubes were well mixed for a minute and extracted twice with 3 ml of a solution of ethylacetate. After centrifuging at 3000 rpm for 10 minutes, the organic phase was transferred to small glass vials, dried completely under a steam of nitrogen at 400 ^{0}C. Samples were reconstituted with 200 µL methanol and 10 µL was injected and analyzed by LC-MS/MS.

We developed an analytical method for the simultaneous analysis of clomipramine in serum using liquid chromatography-mass spectrometry (LC–MS/MS) with multiple selected ion monitoring (SIM). The clomipramine assay was linear up to 200 µg/L.

Serum clomipramine measurement can be easily performed by LC-MS/MS system to identify the risk of the patients with therapeutic drug monitoring. This method allows accurate the pathological levels with high linearity of the system.

This method allows the exact determination of clomipramine levels in pathological concentration to avoid toxic effects.

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