International Journal of PharmTech Research
CODEN (USA): IJPRIF, ISSN: 0974-4304, ISSN(Online): 2455-9563
Vol.9, No.9, pp 243-251, 2016

Determination of reduced glutathione by High Performance Liquid Chromatography in patients with renal stones and Type 2 Diabetes Mellitus

Karam.A. Mahmoud*[1], Mufeed .J. Ewadh[2], Imad .H. Mahmoud[2]

[1]Ministry of Health, Babylon-Iraq.
[2]College of Medicine, Babylon University, Babylon-Iraq.

Abstract: High- Performance Liquid Chromatography Technique of Fluorescence Detector (HPLC-FLD) was used for the detection of sulfur glutathione disulfide (GSSG) based on a derivatization glutathione with ortho-phthalaldehyde (OPA) at pH 12. This technique is characterized by high sensitivity, high specificity , and high selectivity for many of the compounds and in particular the glutathione in serum samples of patients with renal stones. Standard glutathione (20µl, 10mg/dL) was injected and measured at reference conditions to set and fix the real retention time (RT), then 20µl of patent serum samples were injected and measured at the same conditions. Conditions of separation were; acetonitrile: H2O (60:40 ml) as isocratic mobile phase, column C18-ODS (25cm x 4.6 mm x 5µm), 20 µl injection volume of sample, and flow rate 1.0 ml/min at 35ºC through Ex= 350 nm Em = 450 nm Florescence detector Spectrophotometer.
The study showed that significant differences in glutathione levels among control samples, samples of patients with renal stone alone and samples of patients with renal stone and type 2 diabetes mellitus. The result was explain the role of glutathione as antioxidant is present in the pathogenesis of nephrolithiasis.
Keywords: Nephrolithiasis, HPLC-FLD, Glutathione, Type 2 DM.

*****