

**Original article:**

## **Evaluation of urinary calcium to creatinine ratio in pregnancy induced hypertension**

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**Abstract:**

The Present study has been undertaken to evaluate urinary calcium creatinine ratio in Pregnancy Induced Hypertension. Study comprised 250 subject 125 normal Pregnant women without any complication were taken as control and 125 Pregnant women with PIH were taken study cases. Normal Gynecological examination and history based information were taken from each subject. Morning urine samples were collected from each subject and urine sample analyzed for calcium and creatinine. Our study shows a significant fall in urinary calcium creatinine ratio as compared to control study conclude that Hypocalciuria is a early feature of PIH. In this condition change in Urinary calcium Creatinine ratio indicate it relation to renal system.

**Keywords:** Pre-eclampsia, Urinary calcium, Urinary creatinine, Pregnancy induced Hypertension.

### **INTRODUCTION**

Hypertension is one of the commonest and unsolved complication of Pregnancy. Pregnancy induced Hypertension (PIH)

Still Continues to be one of the most common complication of Pregnancy.<sup>1,2,3</sup> Despite of so much research and changes in management it is still a leading cause of maternal morbidity and mortality.<sup>4,5,6</sup> Early diagnosis may help in reducing the disease though the exact cause of PIH is unknown. A number of modalities of treatment are being tried to decrease the Progress of PIH.<sup>7,8,9</sup> The basic pathology in Pregnancy induced Hypertension is due to failure of trophoblastic invasion of spiral decidual arterioles in placental bed leading to ischaemia of Placental bed. In Pregnancy induced Hypertension endothelial cell dysfunction is a key event. So in order to evaluate urinary calcium creatinine ratio in pregnancy induced Hypertension was planed.

### **MATERIAL AND METHODS**

The study was conducted on total 250 patients who have been admitted in the Department of obstetrics and Gynecology MGM Medical College and associate My Hospital Indore from July 2012 to May 2013. 125 normal Pregnant women were taken as control and 125 Pregnancy induce Hypertensive woman taken as study cases. A detailed history about age, residence literacy, occupation etc. It was noted with general physical and obstetric examination. spot urine were collected from each subject. Urine samples were analyzed for calcium and Creatinine levels by fully automated biochemistry analyzer.

## RESULTS

Comparison of Urinary calcium to creatinine ratio between normotensive pregnant woman and PIH

Parameter	Control n=125	PIH Cases n-125	P Value
Urinary Calcium/ creatinine Ratio	0.0618± 0.0084	0.0370±0.0064	< 0.001

The result of this study Presented in the table. The significant decrease in urinary calcium and creatinine ratio was observed in PIH woman when compared to control.

## DISCUSSION

Pregnancy induced hypertension is a multifaceted syndrome with involvement of several important organs.<sup>10,11</sup> Present study revealed decrease calcium creatinine ratio observed in PIH woman. A certain calcium level is required for Production of endothelial derived releasing factor which maintains vasodilatation in normal pregnancy. Alteration of calcium metabolism has been implicated in pathogenesis of hypertension during study concluded that the Pregnancy induced hypertension is associated with disturb calcium creatinine ratio. our study search for predictive indicators estimation such as spot urinary calcium to cretinine ratio. this test help in early diagnosis of pregnancy induced hypertension there by help in reducing the maternal and perinatal mortality associated with it.

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