Additionally, some studies contradicted correlation between hypomagnesemia and hypertension and found increased in Mg levels in hypertension (Geiger & Wanner, 2012). Furthermore, some studies find no difference in Mg levels between hypertension patients and healthy patients (Touyz, 2004). This indicates that not all personnel with hypomagnesaemia suffer from hypertension, and that there are other important factors that affect the correlation between magnesium and hypertension, including obesity, diabetes, pregnancy and race (Geiger & Wanner, 2012).

Magnesium supplementation has been shown to benefit some patients receiving other anti-hypertensives, particularly, Patients on traditional non-potassium-sparing diuretics who tend to have a potentially dangerous magnesium deficiency. In these patients, studies have shown a decrement of systolic blood pressure by approximately 10mmHg, nevertheless, another study could find no benefit. It is of interest that Resnick et al found that, as hypertension was controlled, the levels of intracellular free magnesium rose, regardless of which antihypertensives was used (Del Gobbo *et al.*, 2013; An *et al.*, 2014; Shah *et al*., 2014).

1.13.3 Coronary Artery Spasm

The relation between coronary artery spasm and magnesium deficiency is shown in several studies. Magnesium is considered as a naturally occurring calcium channel blocker as it controls calcium movement across cardiac muscles cell (Fazekas *et al.*, 1993; Guerrera *et al*., 2009). In vitro studies have shown that the arteries are more likely to constrict when incubated in solutions with low concentrations of magnesium. Furthermore, contractile responses to norepinephrine, acetylcholine, serotonin,