INTRODUCTION

Hypertension is defined as sustained elevation of systemic arterial blood pressure. It belongs to the most frequent illness of circulatory system and worldwide health challenge affecting both developed and developing nations. (Kishore et al.; 2016) Long term continuance of this condition may finally damage the vital organs like heart, brain, kidneys and eyes. (Nandhini; 2014)

Oxidative stress is an important causative factor in the development of hypertension. (Rodrigo et al.; 2013) Under normal conditions rate and magnitude of oxidant formation is balanced by the rate of oxidant elimination. However an imbalance between prooxidant and antioxidant results in oxidative stress which is the pathogenic outcome of oxidant over production that overwhelms the antioxidant capacity. In human essential hypertension oxidant formation may increase due to diminution of the activity of antioxidant enzymes Superoxide rapidly inactivates nitric oxide thereby promoting vasoconstriction. Thus oxidative stress may account for endothelial dysfunction causing increased blood pressure. (Mihal J et al.; 2016, PedroBotet et al.; 2005).

According to the World Health Report of 2002, cardiovascular diseases will be the largest cause of death and disability by 2020 in India and 2.6 million Indians are predicted to die due to coronary heart disease which constitute 54.1% of all cardiovascular deaths especially in middle aged individuals (Kumar et al.; 2009, Ahlawat et al.; 2002). In addition to being a major cause
of morbidity and mortality, hypertension places a heavy burden on health care system, families, and society as a whole (Kwamoto et al 2016, Falkner et al; 2010).

Hypertension is broadly classified into two groups.

Primary or essential hypertension

Secondary hypertension.

**Primary or Essential Hypertension** : The etiology of primary hypertension is uncertain and prevalent in 90-95% of hypertensive patients and approximately 40-60% is explained by genetic factors. (Carretero et al ; 2000)

**Secondary Hypertension** : In about 5-10% hypertension can be shown to be a consequence of a specific disease or abnormality leading to sodium retention and/or peripheral vasoconstriction. (Lao et al ; 2011, Pimenta et al ; 2009, Sonita et al ; 2008)

**Risk Factors**

It is multifactorial process and most important risk factors for its development are

- Genetic factors
- Stress and strain factors
- Socio-economic disbalances
- Dyslipidemia
- Obesity
- Blood groups.
Although the interaction of blood groups and disease have been the object of intense studies for more than a century, there are huge gaps in our understanding of the relative levels of oxidative stress in individual blood group.