Pain is a terrible fear for mankind, even more terrific than death itself. Any tissue damage leads to inflammation and induces inflammatory pain. Inflammation is associated with a complex pattern of local and systemic changes including inflammatory cell migration, release of cytokines leading to edema and pain hypersensitivity i.e. hyperalgesia. Non steroidal anti inflammatory drugs (NSAID) are effective in treating acute inflammatory hyperalgesia. Opioid narcotics such as morphine are the most effective treatment for acute and chronic hyperalgesia. However their clinical utility is nearly always hampered due to development of opioid induced hyperalgesia. Therefore interest was focused to develop new approaches for treatment of hyperalgesia with least side effects. Recent concept highlights the role of antioxidants in pain management as ROS are suggested to signal for hyperalgesia development. This upcoming signaling mechanism is hypothesized only a decade ago and exciting research outcomes are emerging fast to establish this non-classical signaling pathway of hyperalgesia development. Recent literature highlights pain alleviating action of a number of antioxidants and proposes antioxidant therapy of hyperalgesia. However before antioxidant therapy becomes accepted, detailed studies are needed to evaluate oxidative biomarkers and their signaling mechanism in development of hyperalgesia. The present project is aimed to trace molecular mechanism involved in ROS mediated signaling of inflammatory hyperalgesia and anti-hyperalgesic potential of two natural antioxidants curcumin and resveratrol.