

K.L.E.Society's



**B. V. Bhoomaraddi College of Engineering and Technology
Vidyanagar , Hubli-580031**



DEPARTMENT OF BIOTECHNOLOGY

A PROJECT REPORT ON

**“SYNTHESIS OF SILVER NANOPARTICLES AND STUDY OF THEIR
ANTI-ULCER PROPERTY IN *IN-VIVO* MODEL”**

Under the Guidance of

Dr.B.B.UDAPUDI

Submitted by

Praveenkumar Naik

Rupali Sharma

Sabiha Tabassum Savadatti

Samprita Balgi

2BV08BT028

2BV08BT035

2BV08BT036

2BV08BT037

ABSTRACT

The present study was undertaken to evaluate the antiulcer properties of Silver Nanoparticles in pyloric ligated *in-vivo* model. Silver nanoparticles exhibit new optical properties, which are observed neither in molecules nor in bulk metals. In the present study silver nanoparticle colloid was produced by chemical reduction method of silver salt (silver nitrate AgNO₃) solution by using trisodium citrate as a reducer. UV-VIS spectrometry indicated formation of silver nanoparticles which was confirmed by Scanning Electron Microscope (SEM). The Surface Plasmon Resonance peak in absorption spectra of silver colloidal solution showed an absorption maximum at 450 nm. The size range determined by SEM was from 44nm to 56.55nm. Further in this study the focus was on determining the effect of silver nanoparticles against stomach ulcers induced by pyloric ligation in *in-vivo* model (wistar rats). Gastric juice analysis of control and AgNP treated rats was carried out. The volume of gastric juice of AgNP treated rats was less compared to control rats confirming antisecretory property of AgNP. pH analysis of gastric juice was done. AgNP treated rat's pH was 6.7 and control rats was 4. This confirmed antacid property of AgNP. Ulcer index was calculated, AgNP treated rat showed ulcer index of 5.5 which was less compared to control rat ulcer index of 7.5. This confirmed antiulcer property of AgNP. The same study was repeated three times, consistent results were obtained. Then histopathological studies were carried out.