GENERAL INTRODUCTION

Cancer of the uterine cervix is the second most common cancer in the world. In India it is the major cancer in women and annually about 90,000 women develop this cancer. Of the associated risk factors, infection with human papillomavirus (HPV) has been strongly implicated in the clinical course and malignant progression of the disease. HPVs specifically the types 16 & 18 are considered to be the "high risk" types in their tumorigenic influence. Various experimental studies on cell immortalizing and transforming activities of HPV 16 & 18 suggest that infection of these viruses leads to anogenital malignancy. In India the frequency of high risk HPV type 16 is found to be very high while the frequency of other oncogeneic HPV types is extremely low or zero. Although infection of HPV is essential, it is perhaps not sufficient for ultimate tumorigenic transformation. Some additional events are essential. Moreover, about 2-20% of cervical tumors do arise even without HPV infection and these HPV negative cervical tumors show a worse prognosis. Also, various prevalence studies have indicated subclinical or latent infection of HPV in asymptomatic normal women of different age groups. All these indicate involvement of certain additional factors during cervical carcinogenesis.

Although experimental evidences strongly suggest that HPV infection per se is essential, it may not be sufficient to produce malignant phenotype. It has been suggested that the factors such as alteration and/or interactions of certain common cellular oncogenes or tumor suppressor genes are required for progression of cervical lesion to a fully malignant state. Therefore in addition to typing of HPV, the detection of these oncogene alteration/amplification or mutation in the early cancerous lesions is of immense importance in identifying the high risk population who are likely to develop cervical cancer. In order to add to this effect it will be of great interest if the viral infection could be removed at the early stage by use of certain anti-viral agents. In view of the above the present study has been designed with the following objectives:

1) To analyse the prevalence of HPV-11 & 16 DNA sequences in normal cervicovaginal smears and invasive carcinomas of uterine cervix using
polymerase chain reaction (PCR).

2) To understand the role of oncogene alteration/activation during the process of cervical carcinogenesis and

3) To evaluate the antiviral effect of 'Praneem' polyherbal cream in pre- or early cancerous lesions of the uterine cervix with human papillomavirus infection.