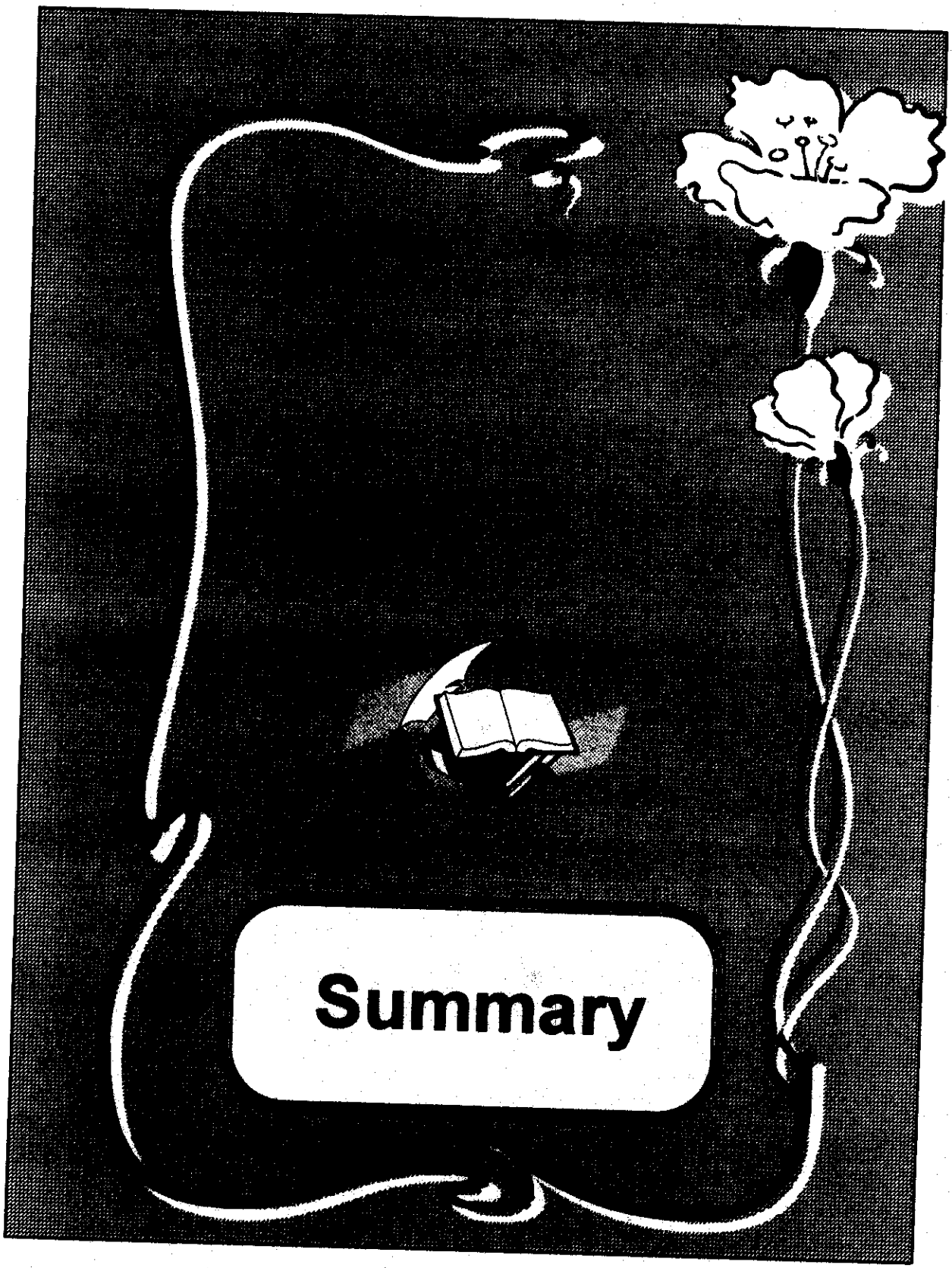
Summary

SUMMARY

The relative proportions of different types of cervical carcinoma varies from study to another, but in general, approximately 60-80% of the invasive carcinomas of the cervix are classified as squamous cell carcinoma. The development of cervical carcinoma has been linked with HPV infection and P 53 loss of function.

This study aims at, firstly studying the HPV prevalence in squamous cell carcinoma of the cervix trying to found a correlation between HPV and cervical carcinoma. Secondly, immunohistochemical study of P 53 in cervical squamous carcinoma, trying to evaluate the correlation between P 53 and HPV in cancer cervix. The third point of aim is cytophotometric analysis for the detection of DNA content in this type of cancer and studying the significance of P53 suppressor gene in cancer cervix in comparison to the DNA ploidy pattern. In the current investigation, twenty cases of formalin-fixed paraffin - embedded tissues of cervical squamous carcinoma were studied.

These tissues were examined by :

1) Hematoxylin and eosin staining for routine histopathological examination and grading.

2) In situ hybridization for the detection of HPV DNA in the nuclei of tumor cells.

3- Immunohistochemical staining for the detection of P53 in the nuclei of tumor cells.

4- Feulgen staining for evaluation of DNA content in tumor cells by cytophotometric analysis.

The results of this study showed that, these cases were classified into 3 grades and four stages.

According to grading,

Grade I, 3 cases (15%), grade II. 14 cases (70%) and grade III were 3 cases (15%).

According to staging,

Stage I : 8 cases (40%) and each of the other 3 stages (II to IV) : 4 cases (20%).

In situ hybridization results

It showed that, 12 out of the 20 cases examined showed DNA of HPV in a prevalence of (60%). HPV types 16 & 18 showed a 50 % prevalence while HPV 31, 33 and 35 prevalence was only 10%.

The results of this study revealed, inversely proportionate correlations between HPV infection and tumor grading and staging, but only the correlation with staging was statistically significant.

Immunohistochemical results

It showed that P53 was observed only in 6 out of the 20 cases examined in a percentage of 30%. One of the positive cases showed P53 positivity in less than 5% of the tumor cells (+) P 53 protein was detected in 5-50 % of the tumor cells in 3 cases (++) and in more than 50% of the tumor cells in 2 cases (+++).

No significant correlation could be, detected between P53 status and cervical carcinoma grade, while the correlation between cervical carcinoma stage and P53 status was statistically significant. ($p = 0.013$). Also P53 status and HPV infection showed an inversely proportionate correlation ($r = -0.58$). and this correlation was highly significant ($p = 0.007$).

There are 3 cases which showed negative results for both HPV and P53 while P53 and HPV co-expression was found in only one case.

DNA cytophotometric examination

DNA histograms for every case were done and classified into 3 types. The results were :-

Thirty percent of the cases showed type I histogram, 50% were type II histogram and type III was seen in only 20% of the cases studied. The correlation between DNA aneuploidy and cervical carcinoma grade and stage were statistically insignificant, but the average DNA content showed directly proportionate correlation with tumor stage ($p = 0.008$).

Also there is a significant positive correlation between histogram type and tumor stage i.e. the higher the cervical carcinoma stage, the more advanced the type of DNA histogram. ($p = 0.01$).

The results of cytophotometric study showed that, average DNA content is directly proportional to P53 status ($p = 0.009$). While the correlation between average DNA and HPV status was found to be insignificant. ($p = 0.26$).