C-myc gene amplification in different stages of oesophageal squamous cell carcinoma: prognostic value in relation to treatment modality.

BACKGROUND: The proto-oncogene c-myc is known to be involved in the regulation of proliferation, apoptosis and cell differentiation. MATERIALS AND METHODS: Amplification of c-myc was determined by means of differential PCR in 77 surgically treated stage I or II oesophageal squamous cell carcinomas (SCC) as well as in 43 locally advanced SCC (cT3-4 cN0-1 cM0) treated by radiochemotherapy and facultatively by surgery. The findings were correlated to overall survival and to response to radiochemotherapy.

RESULTS: C-myc gene amplification was present in 8 out of 77 surgically treated SCC (10.4%) and in 13 out of 43 multimodally treated SCC (30.2%). Among the surgically treated tumours, the presence of c-myc amplification was correlated with high proliferative activity (p = 0.0399) but not with overall survival. Among the multimodally treated SCC, c-myc amplification tended to be correlated with response to chemotherapy and response to radiochemotherapy (not significant) whereas no impact on overall survival was found.

CONCLUSION: Amplification of c-myc is found more frequently in advanced stages of oesophageal SCC than in early stages. C-myc amplification, however, does not influence the overall survival of oesophageal SCC patients treated either by surgery alone or by multimodal therapy.