



Role and prognostic significance of p53 mutation in colorectal carcinomas

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Author contributions: All authors contributed equally to the work.

Supported by The National Natural Scientific Foundation of China, No. 89000038, and Singapore Lee & Shaw Foundation.

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Received: September 15, 1999
Revised: February 10, 2000
Accepted: July 10, 2000
Published online: September 15, 2000

Abstract

AIM: To study the prognostic significance of the *p53* cDNA mutation and mutant p53 protein in colorectal adenocarcinomas.

METHODS: *p53* cDNA mutation was detected with RT-PCR-SSCP, and mutant p53 protein overexpression was detected by PAb 240 monoclonal antibody in 100 cases of colorectal adenocarcinomas. The follow up survey of all patients were done within the five years after operation, and comparing with *p53* cDNA mutation and mutant p53 protein overexpression for the prognostic significance of colorectal adenocarcinomas. The data is treated with SPSS computer program, Kaplan Meier Survival Plots were calculated and analyzed by Log-rank analysis.

RESULTS: Fifty-one cases of *p53* cDNA mutations (51%) were found with RT-PCR-SSCP and 76 cases of mutant p53 protein

overexpression (76%) found with PAb 240 monoclonal antibody immunohistochemistry staining in 100 cases of colorectal adenocarcinomas. There are no relationship with Dukes stage in the statistics in *p53* cDNA mutation (mutation: Dukes A 9%, B 10%, C 20%, D 12%; No mutation: A 13%, B 12%, C 12%, D 12%) and mutant p53 protein overexpression (positive: Dukes A 17%, B 6%, C 27%, D 16%; negative: A 5%, B 6%, C 5%, D 8%) ($P < 0.05$). Moreover, the data show *p53* cDNA mutation is associated with mutant p53 protein overexpression (both positive 49%, single positive 29%, both negative 22%) ($P < 0.01$), *p53* cDNA mutation can provide prognostic information (*p53* cDNA mutation positive: alive 35, dead 16; negative: alive 42, dead 7) ($P < 0.05$), and mutant p53 protein overexpression is ambiguous and does not assess prognosis (p53 protein overexpression positive: alive 58, dead 18; negative: alive 19, dead 5) ($P = 0.72$) with Kaplan Meier Survival Plots and Log-rank analysis.

CONCLUSION: *p53* cDNA mutation is associated with mutant p53 protein overexpression (*p53* cDNA mutation and mutant p53 protein overexpression both positive 49%, single positive 29%, both negative 22%) ($P < 0.01$) and *p53* cDNA mutation can provide poor prognostic information, and is the biomarker of poor survival of colon cancer. However, mutant p53 protein overexpression could not predict prognosis and may be effected by other multi-factors in colon cancer.

Key words: Colorectal neoplasm; Genes, *p53*; Gene expression; Polymerase chain reaction; Mutation; Immunohistochemistry

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Ji CY, Smith DR, Goh HS. Role and prognostic significance of p53 mutation in colorectal carcinomas. *World J Gastroenterol* 2000; 6(Suppl3): 133 Available from: URL: <http://www.wjgnet.com/1007-9327/full/v6/iSuppl3/133.htm> DOI: <http://dx.doi.org/10.3748/wjg.v6.iSuppl3.133>

E- Editor: Zhang FF



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