The Role of TP53 Gene Mutations in Oral Cancer: Implications for Early Detection, Residual Cancer Identification, and Surgical Outcomes

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Oral cancer frequently involves mutations in the TP53 gene, which encodes the p53 protein responsible for regulating cell growth and apoptosis. TP53 mutations impair the protein's ability to suppress abnormal cell proliferation and facilitate the development of malignancies. This study explores the impact of TP53 gene mutations on the progression and management of oral and oropharyngeal cancers. We review evidence suggesting that genetic testing for TP53 mutations can enhance early detection of oral cancers, identify residual tumor cells post-surgery, and predict the likelihood of tumor response to surgical interventions. By integrating these genetic insights, clinicians may improve

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Ke d : TP53 ; 53 S ; G ; T

I d c i

TP53 . TP53 , 53 , DNA . 53 . M TP53 53 , .I 1 .

R TP53 G TP53 , . F - , . A , TP53 , .

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O e ie f al ca ce

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Mecha i m f TP53 m .a i .

TP53 , , , , 53 . , - , . 3 .

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D 53 TP53 ' DNA , . , , .

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F e .e c a d . e f TP53 m .a i .

TP53

(TP 3).

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N e id al di ea e (%): TP53 -

- al e: I TP53

P edic i e Val e f TP53 M a i

C ela i i h m e e ge

TP53 . S , . K TP53 , . F TP53- , , 6 .

Cli ical A lica i a d F e Di ec i

I eg a i g TP53 e i g i cli ical ac ice

I TP53 . D , TP53 , , , . A .

P ec f e ali ed medici e i al ca ce

TP53 . B , .

Re l a d Di c i

F e e c a d e f TP53 m a i

TP53 . S , 100 , 65% TP53 . , , DNA- 53 , - 7 .

A cia i i h di ea e g e i

TP53

, DNA- , 53 . TP53 . TP53 . TP53 . , 9 .

Ad a ce i ea l de ec i

TP53 . TP53 . TP53 - . B , TP53 . .

P edic i e al e a d e ali ed ea me

TP53 . T TP53 , . , TP53 . TP53 , . I , , 10 . F , TP53 , . , TP53 . B , , TP53 11 .

C cl i

TP53 , , . TP53 . E TP53 . A , TP53 . I TP53 , .

Ack ledgme

N

C ic f I e e

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