

LIST OF FIGURES

No.	Title	Pag
	Prologue	
1.1	Hallmarks of Cancer	2
1.2.1	Radical Cause of Cancer: Tobacco in different for forms	3
1.2.2	Molecular-Pathogenesis of Cancer	5
	Introduction	
2.2	Major risk factors attributing to cause of cancer.	10
2.3.1	Incidence, mortality and prevalence of cancer worldwide by continent.	11
2.3.2	New cancer cases (incidence) and prevalent cases (five year survival) in thousands by cancer site in 2002.	12
2.3.3	Head and neck sites in human body	13
2.5.1	Top major cancers by site irrespective of gender registered at G.C.R.I., 2003.	15
2.5.2	Incidence of Tobacco related cancers at G.C.R.I., 2003.	15
2.6.1	Implications of ROS and RNS mediated damage in pathogenesis of oral cancer	22
2.8.1	Pictorial illustration of different stages of cancer.	26
2.12.1	Pathogenesis of oral premalignant lesions.	29
2.13.1	Molecular Progression of Oral Cancer	33
	Materials and Methods	
3.1	Principle of ECL western blot method	72
3.2	Diagrammatic representation of western blot procedure	75
3.3	Flow chart depicting the procedure of gelatin zymography	78
3.4	Pictorial representation of principle of Sandwich ELISA method	80
3.5	Assay for anti -p53 antibodies by Sandwich ELISA	82
3.6	Schematic layout of Sandwich ELISA for active NF _K B-p65	84
3.7	Schematic layout for the assay procedure of	87
3.8	Quantikine assay of Sandwich ELISA Pictorial representation for serial dilutions of	88
J.0	MMP-2, MMP-9, TIMP-1 and TMP-2 standards	00
	Results- 4.1	
4.1.1	Standard curve for NF _K Bp65	91
4.1.2	Representative pattern for NFkBp65 expression in tissues	91
4.1.3	Expression of NFκBp65 protein levels in tissues	92
4.1.4	ROC curve for NFxBp65 in oral cancer patients	93
4.1.5	Representative pattern for iNOS expression in tissues	97
4.1.6	iNOS expression in malignant and adjacent normal oral tissues	97
4.1.7	ROC curve for iNOS expression in oral cancer patients	98
4.1.8	Representative pattern for Hsp-70 expression in OSCC	100

4		
	tissues	
1.9	Hsp-70 expression in oral SCC tissues	101
1.10	ROC curve for Hsp-70 expression in oral cancer patients	102
1.11	Representative pattern for Bcl-2 expression in tissues	104
1.12	Representative pattern for Bax expression in tissues	104
	• • • • • • • • • • • • • • • • • • • •	
.1.13	Expression of apoptotic proteins in malignant and adjacent normal oral tissues	105
.1.14	ROC curve for Bcl-2 in oral cancer patients	106
.1.15	Representative gelatin zymogram and standard curves for Gelatinase-A [MMP-2]: (A; Zymogram, B; latent, C; active) standards	109
.1.16	Representative pattern for gelatinase-A (MMP-2) in oral SCC tissues	110
.1.17	Comparison of Latent, active, total and activation ratio of Gelatinase-A (MMP-2) in oral SCC tissues	111
.1.18	ROC curve for Gelatinase-A (MMP-2) in oral cancer patients	112
.1.19	Comparison of gelatinase-A (MMP-2) in oral SCC with	113
1.1.19	lymphatic response and larger tumor size	113
.1.20	Representative gelatin zymogram and standard curves for	115
1.1.ZU	Gelatinase-B [MMP-9]: (A; Zymogram, B; latent, C; active) standards	115
1.1.21	Representative pattern for gelatinase-B (MMP-9) in oral SCC tissues	115
1.1.22	Comparison of Latent, active, total and activation ratio of Gelatinase-B (MMP-9) in oral SCC tissues	117
1.1.23	ROC curve for Gelatinase-B (MMP-9) in oral cancer patients	118
1.1.24	Comparison of percentage activity of gelatinase-A (MMP-2)	123
	and Gelatinase-B (MMP-9) between malignant and adjacent normal oral SCC tissues	
	Results 4.2	
.1.24	Standard curve for serum p53 antibodies	126
.2.25	Comparison of mean values of serum auto p53 antibodies	127
	in controls and oral cancer patients	_
.2.26	ROC curve for serum p53 autoantibodies in controls vs oral	127
	cancer patients	
1.2.27	Comparison of serum p53 autoantibodies levels between	132
	pretreated oral cancer patients and their follow-up	
1.2.28	Representative case for Complete-responders (CR)	133
.2.29	Representative case for Non-responders (NR)	133
.2.30	Standard curve for serum IL-8	134
1.2.31	Comparison of mean values of serum IL-8 in controls and	135
e so :	oral cancer patients	
1.2.32	ROC curve for serum IL-8 in controls vs oral cancer patients	135
1.2.33	Representative case for complete responder (CR)	139
1.2.34	Representative case for non-responder (NR)	140
1.2.35	Comparison of mean values of serum glycoprotein	141
	constituents in controls and oral cancer natients	

4.2.36	ROC curve for serum glycoprotein constituents in controls	142
	vs oral cancer patients	
4.2.37	Comparison of Mean values of Serum hexoses in oral	144
	cancer patients with tumor size and nuclear grade	
4.2.38	Representative case for complete responder (CR)	146
4.2.39	Representative case for Non-responder (NR)	147
4.2.40	Standard curve for (A) Plasma Gelatinase-A (MMP-2) and	149
	its (B) tissue inhibitor TIMP-2	
4.2.41	ROC curve for plasma gelatinase — A and its tissue inhibitor in controls vs oral cancer patients	150
4.2.42	Representative case for complete responder (CR)	154
4.2.43	Representative case for Non-responder (NR)	154
4.2.44	Standard curve for (A) Gelatinase-B (MMP-9) standard and (B) Standard curve for TIMP-1 standard	155
4.2.45	ROC curve for plasma gelatinase—B and its tissue inhibitor in controls vs oral cancer patients	156
4.2.46	Representative case for complete responder (CR)	161
4.2.47	Representative case for Non-responder (NR)	162
4.2.48	Comparison of plasma levels of gelatinase-A (MMP-2), gelatinase-B (MMP-9), tissue inhibitors TIMP-1 and TIMP-2	163
4.2.49	Comparison of antioxidant and detoxification enzymes as well as thiol levels between controls and cancer patients	167
4.2.50	ROC curve for serum antioxidant and detoxifying enzymes in controls vs oral cancer patients	168
4.2.51	Correlation of antioxidant and detoxifying enzymes with the stage of the disease	169
4.2.52	Mean erythrocyte GST, GR, SOD and catalase levels in PT CR and NR	169
4.2.53	Comparison of plasma GST, GR and thiol levels between PT, CR and NR	170
	Epilogue	
6.1	Summary of diagnostic and prognostic implications of biomarkers in oral cancer	203