BIOCHEMICAL STUDY OF SOLUBLE ADHESION MOLECULES AS MARKERS IN BREAST CANCER PATIENTS

Thesis

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LIST OF ABBREVIATIONS

BM40	Osteonectin
BRCA1	breast cancer type 1 susceptibility genes
BRCA2	Breast Cancer Type 2 susceptibility genes
BSE	Breast self examination
CAMs	Cell adhesion molecules
CBE	Clinical breast examination
CCL3	C-C motif chemokine 3 or Macrophage inflammatory protein-1
CD26	Dipeptidyl peptidase IV
CD44	is a receptor for hyaluronic acid
cDNA	complementary DNA
CIA	Collagen- induced arthritis
COS cells	the cells being CV-1 (simian) in Origin, and carrying the SV40 genetic material
CRD	Carbo-hydrate-recognition domain
CRP	Complement-regulatory proteins
CTL	C-type lectins or Ca+2 -dependent
DCIS	Ductal carcinoma in situ
EGF	Epidermal growth factor
ELAM-1	Endothelial leukocyte adhesion molecule-1
ER	Oestrogen receptors
ERBB2	Erythroblastic leukemia viral oncogene homolog 2
ERT	Estrogen replacement therapy
ESL-1	E-selectin ligand-1
GCDFP15	a glycoprotein identified in the cyst fluid of cystic breast disease

HCELL	Hematopoiectic cell E- and L-selectin ligand
HIV	Human immunodeficiency virus
HL-60 cells	Human promyelocytic leukemia **cells**
HRT	Hormone replacement therapy
HUVEC	Human umbilical vein endothelial cells
ICAM-1	Inter-Cellular Adhesion Molecule 1
IG	Immunoglobulin
IL-1	Interlukin-1
LCIS	Lobular carcinoma in situ
LDLR	Low-density lipoprotein receptor mutant
LFA-1	Lymphocyte function-associated antigen-1
NK cells	Natural killer cells
PECAM-1	Platelet endothelial adhesion molecules
PR	Progesterone receptors
PSGL-1	P-selectin glycoprotein ligand-1
QIDSPL	Integrin –binding motif
RA	Rheumatoid arthritis
RPTP	Receptor protein tyrosine phosphates
SLE	Systemic lupus erythematosus
SLex	Sialyl lewisx
SPARC	Secreted protein acidic and rich in cysteine
TDLU	Terminal ductal lobular units
TGN	Trans Golgi netwark
TNF	Tumor necrotic factor
U937 cells	is a human monocytic cell line
VCAM-1	Vascular cell adhesion molecules

VEGF	Vascular endothelial growing factor
VLA4	Very Late Antigen-4

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INTRODUCTION

Cancer is a major health problem world wide and the morbidity and mortality from cancer give rise to much suffering. Breast cancer is the most common malignancy in women worldwide ***(Stewart, 2003).***

The causes of breast cancer are fundamentally unknown although we do know that there are some important predisposing factors, most of these are in some way related to hormonal factors. Positive family history is important risk factors for breast cancer ***(Loman et al., 2001).***

Breast cancer spreads to local lymph nodes both in the axilla and the internal mammary chain, and then via the blood stream to produce distant metastases. A combination of genetic changes with the tumor allows for increased and chaotic cellular division, a reduction in apoptosis, invasion of local tissue and angiogenesis to support the tumor's continued growth ***(Abeloff and Wolff et al., 2008).***

The improvement in breast cancer screening, >50-60% of tumors are detected early, before axillary lymph node involvement. Such patients are considered to have a better prognosis than node positive breast cancer patients, but 20-30% of them will relapse after surgery. There obviously is a need for good prognostic factors to accurately define subgroups of patients who would benefit from