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التوثيق الالكتروني والميكروفيلم

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قسم

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بالرسالة صفحات

لم ترد بالأصل

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بسم الله الرحمن الرحيم

ETIOLOGIC FACTORS INVOLVED IN LEUKEMOGENESIS

Essay Submitted For The Partial Fulfillment
of MSc in

Clinical Pathology

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Dedicated to

My father,my mother,
my brother and my sister

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Sherif El-Kotb.

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LIST OF ABBREVIATIONS

Ab-MULV	Abselon-murine leukemia virus
AEV	Avian erythroblastosis virus
AIDS	Acquired immunodeficiency syndrome
ALL	Acute lymphoblastic leukemia
AML	Acute myeloblastic-leukemia
AML: M_3	Acute promyelocytic leukemia
AML, M_6	Erythroleukemia
AMV	Avian myeloblastosis virus
ANLL	Acute non-lymphocytic leukemia
BT	1, 2, 4 benzatrial
CAT	Catechol
CFU	Colony forming unit
CLL	Chronic lymphatic leukemia
CML	Chronic myeloid leukemia
CMML	Chronic myelomonocytic leukemia
CR	Complete Remission
CSF	Colony stimulating factor
DAVTH	Combination chemotherapy of Doxorubicin, Vincristine, Tamoxifen, and Halotestine
DBC	Dibromodulcital
DIF	Differentiation inducing factor
e.BL	Endemic Burkitt's lymphoma
EBNA-2	Eptein-Barr nuclear associated antigen-2
EBV	Eptein-Barr virus
EGF	Epidermal growth factor
GDP	Guanine diphosphate
GM-CSF	Granulocyte, macrophage, colony stimulating factor
G-6-PD	Glucose-6-Phosphate dehydrogenase
GTP	Guanine triphosphate
HD	Hodgkin's disease
HPLC	High performance liquid chromatography
HPRT	Hypoxanthine phosphoribosyl transferase
HQ	Hydroquinone
HTLV-1	Human T-cell lymphotropic virus-1
IGH	Immunoglobulin heavy chain
IL	Interleukin
Kb	Kelobase
KD	Kelodalton
LET	Low energy transfer
M-CSF	Macrophage, colony stimulating factor
mdr	Multi-drug resistant
MDS	Myelodysplastic syndrome

MGI	Macrophage and Granulocyte inducer
MOPP	Nitrogen mustard, Vincristine, Procabazine, Predinsone.
NCI	National Cancer Institute
NHL	Non-Hodgkin's lymphoma
NSCLC	Non-small cell lung cancer
NTS	Nevada Test Site
O_1	Singled oxygen
PDGF	Platelet-derived growth factor
PH	Phenol
Ph.	Philadelphia
PGK	Phosphoglycerate kinase
RR	Relative Risk
SANLL	Secondary acute non lymphocytic leukemia
SBL	Sporadic Burkitt's lymphoma
SANLL	Secondary acute non-lymphocytic leukemia
T. AL	Therapy-related acute leukemia
TNF	Tumor necrosis factor
TPA	12-0 tetradecanoyl-phorbol-13 acetate, a tumor promotor

INTRODUCTION

INTRODUCTION

Given that leukemia is a clonal disease, it may result from a dissociation / uncoupling of the regulators of replication from those of maturation (Sach's seminal observation, 1990) leading to accumulation of incompetent long lived cells that are insensitive to feedback regulators, and replace and repress normal cells. Eventually the over production of immature cells causes them to pour into the blood stream and occupy lymph nodes, spleen & most of vital organs.

The malignant phenotype and the multiplicity of leukemic syndrome reflect the cytokinetic level at which maturation stops,a block affecting pluripotential stem cell replication leads to aplastic anaemia, a block affecting one of the committed stem cell lines e.g. CFU.G can lead to fatal congenital agranulocytosis, classic AML results from a maturation differentiation block only a single cytokinetic stipe later, here the mutant stem cell line has been programmed to differentiate and proliferate to the myeloblast stage, but genetic instructions for further maturation are lacking. On the other hand, if the genetic program codes for one further step, the progeny will be of promyelocytic stage, these will accumulate (acute promyelocytic leukemia). In CML the block is incomplete enabling maturation division to go further, although cells produced are functionally imperfect and cytokinetically sluggish.