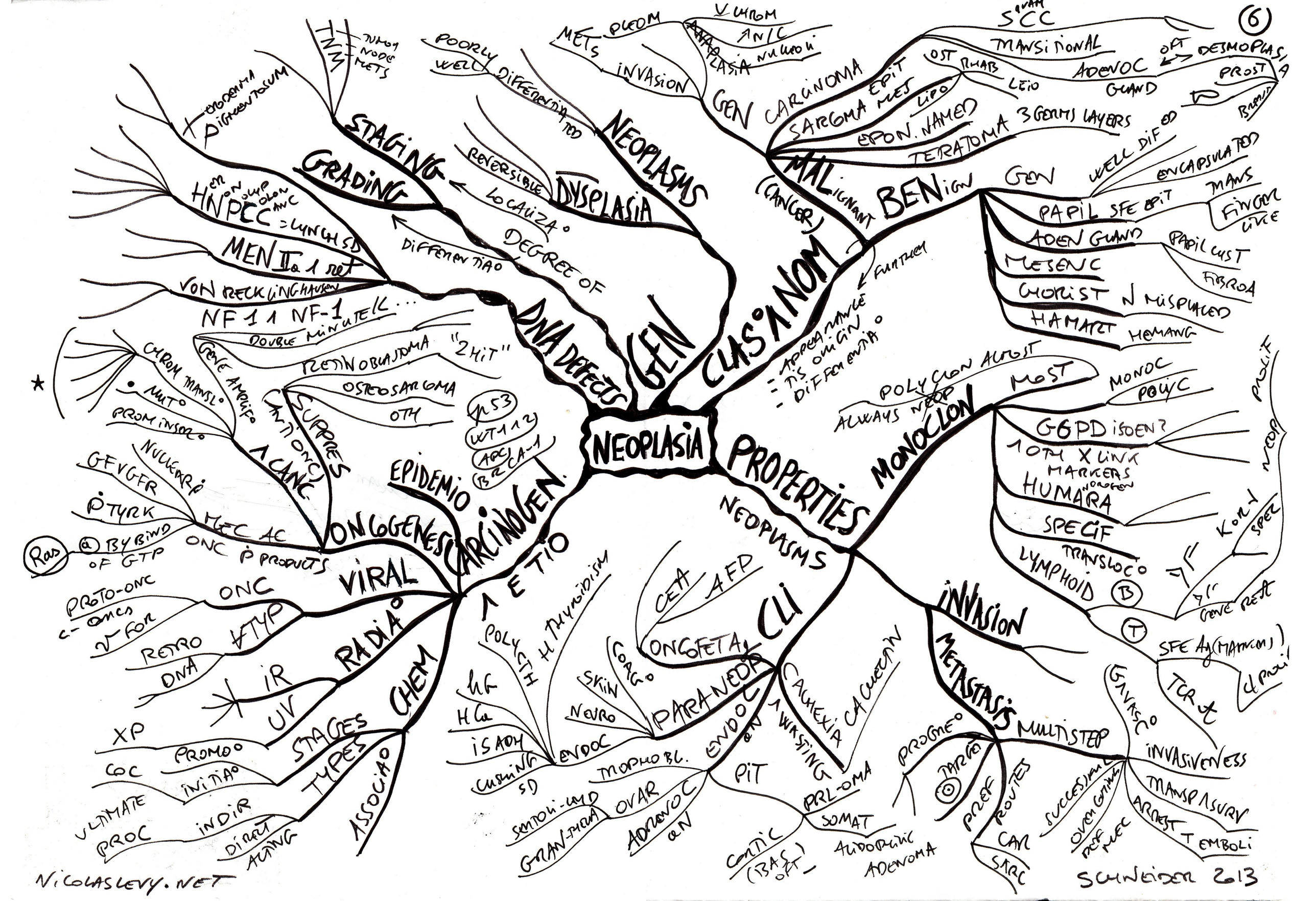
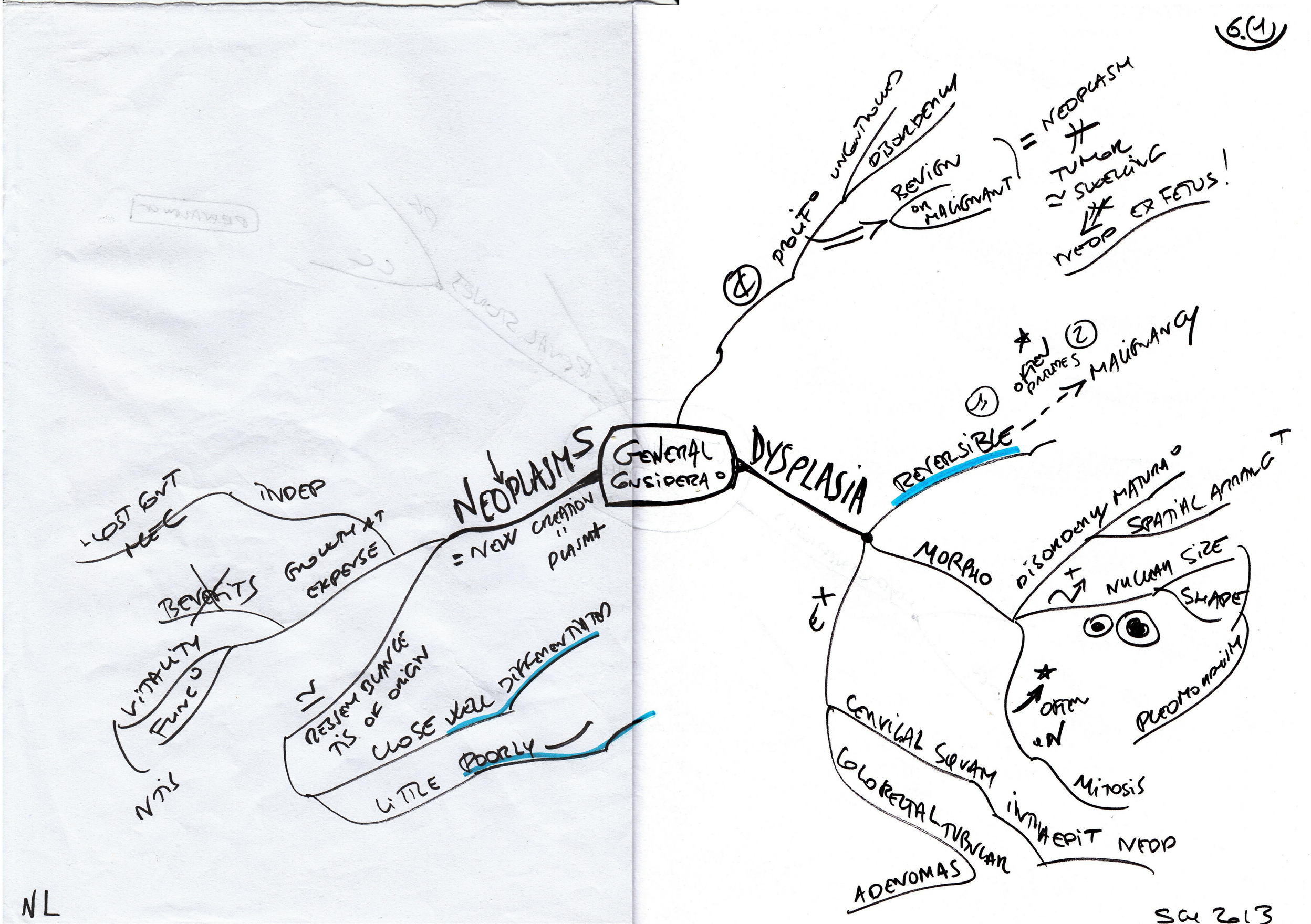
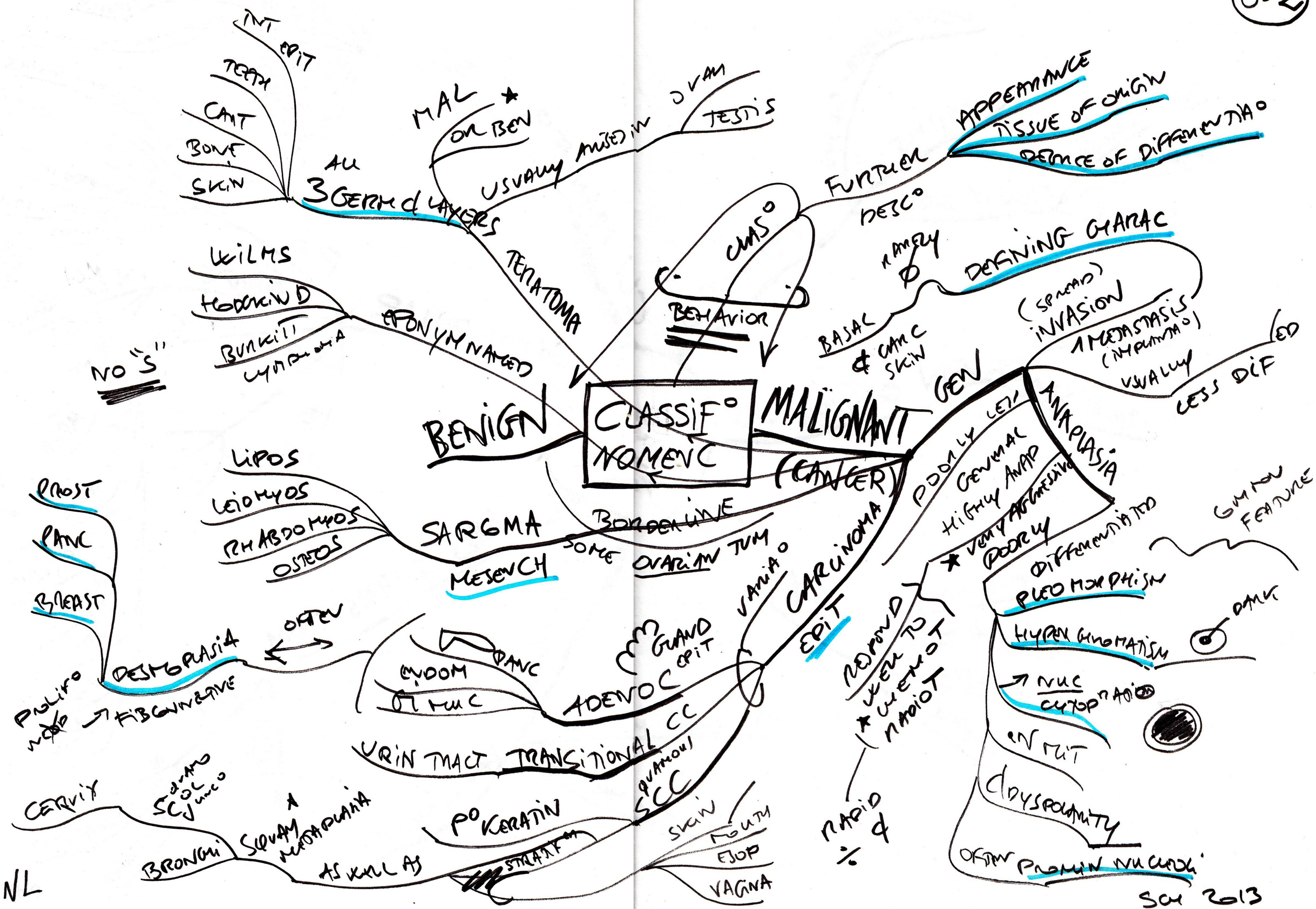

6
NEOPLASIA
GEN
DNA DEFECTS
CLASSIFICATION
MALIGNANT (CANCER)
BENIGN
GEN CARCINOMA
SARCOMA
TERATOMA
3 GERMS LAYERS
EPON. NAMED
METS
INVASION
PLEOM
V CHROM
ANIC
ANAPLASIA
NUCLEOLI
SCC
TRANSITIONAL
ADENOC
GLAND
DESMOPLASIA
PROST
LEIO
LIPO
EPIT
OST
RHAB
POORLY
WELL DIFFERENTIATED
NEOPLASMS
DYSPLASIA
REVERSIBLE
LOCALIZA°
DEGREE OF
DIFFERENTIA°
STAGING
GRADING
TNM
TUMOR
NODE
METS
ENDODERMA PIGMENTOSUM
HNPCC
MEN II a 1 ref
VON RECKLINGHAUSEN
NF 1 1 NF-1
DOUBLE MINUTE
CHROM TRANSL°
GENE AMPLIF°
MUT°
PROM INSOR°
NUCLEAR°
GEVGER
PTYRK
MEC AC
ONC P PRODUCTS
Ras
BY BIND OF GTP
PROTO-ONC
C-ONCS
FOR
ONC
RETRO
DNA
VTYP
RADIA°
IR
UV
XP
CHEM
STAGES
TYPES
ASSOCIA°
PROMO°
INITIA°
INDIR
DIRECT
ACTING
ULTIMATE
PROC
CANCER
SUPPRESS
ONCOGENES
RETINOBLASTOMA
"2 HIT"
OSTEOSARCOMA
OTH
p53
WT112
APC
BRCA-1
EPIDEMIO
CARCINOGEN.
ETIO
POLYCTH
HYPERTHYROIDISM
HG
HCG
ISADH
CUSHING
SD
SKIN
NEURO
CORG°
CEA
AFP
ONCOFETAL
CLI
PARANEOP
ENDOC
MORPHO BL.
SERTOLI-LYD
GRANULOSA
OVAR
ADENOC
GN
PIT
PRL-OMA
SOMAT
ACTIC
(BAS OFT)
ALDOSTERONIC ADENOMA
CACHEXIA
CACHEXIN
WASTING
FUNCTION
APPEARANCE
TIS ORIGIN
DIFFERENTIA°
POLYCLON ALWOST
ALWAYS NEOP
MOST
MONOC
POLYC
MONOCLON
G6PD ISOEN?
10TH X LINK MARKERS
HUMARA
SPECIF
TRANSLOCO
LYMPHOID
B
T
SPEC
CONT
GENE REARR
SPE AG (MATURON)
TCR
PROLIF
NEOP
PAPIL
SFE EPIT
ADEN GLAND
MESENC
CHORIST
N MISPLACED
HAMART
HEMANG
WELL DIF ED
ENCAPSULATED
MANS
FINGER LIKE
PAPIL CYST
FIBROA
INVASION
METASTASIS
MULTISTEP
PROGNE°
TARGET
PREF ROUTES
CAR
SARC
SUCCESSIVE
OVERCOMING
REF MEC
GAVAGE°
INVASIVENESS
MANSPASURV
ARREST
EMBOLI
NICOLASLEVY.NET
SCHNEIDER 2013


GENERAL CONSIDERATIONS
NEOPLASMS
= NEW CREATION
" PLASMA
LOST GVT
NEC
INDEP
GROWTH AT EXPENSE
BENEFITS
VITALITY
FUNC
NTIS
RESEMBLANCE TIS OF ORIGIN
CLOSE WELL DIFFERENTIATED
LITTLE POORLY
DYSPLASIA
REVERSIBLE
MORPHO
DISHOMOGENY MATURATION
SPATIAL ARRANGT
NUCLEAR SIZE
SHAPE
PLEOMORPHISM
OFTEN
MITOSIS
CERVICAL SQUAM
INTRAEPIT NEOP
COLORECTAL TUBULAR
ADENOMAS
PROLIFE UNCONTROLLED
DISORDERED
REVERSIBLE OR MALIGNANT
= NEOPLASM
≠ TUMOR
≈ SWELLING
≠ NEOP EX FETUS!
OFTEN PRECURSORS
MALIGNANCY
NL
SGC 2013


CLASSIF°
NOMENC
BENIGN
MALIGNANT
(CANCER)
NO "S"
APPEARANCE
TISSUE OF ORIGIN
DEGREE OF DIFFERENTIATION
FURTHER DESC°
DEFINING CHARAC
BEHAVIOR
CHAS°
BASAL & CARC SKIN
(SPREAD) INVASION
METASTASIS (INVASION°)
USUALLY
LESS DIF ED
GEN
ANAPLASIA
POORLY DIFFERENTIATED
GENERAL HIGHLY ANAP
★ VERY AGGRESSIVE
PLEOMORPHISM
HYPERCHROMATISM
NUC CYTOP RATIO
MIT
DYSPOLARITY
ORDER PROMIN NUCLEOLI
GUMMON FEATURE
DANC
REPROD VERY TO WEAK OT RADIOT
★ WEAK OT RADIOT
RAPID ÷ ↑
CARCINOMA
EPIT
VARIA°
GLAND EPIT
ADENOC
ENDOM
DANC
MUC
URIN TRACT TRANSITIONAL CC
QUAMOUS SCC
PO KERATIN
STRATIF
SKIN
MOUTH
ESOP
VAGINA
CERVIX
SCJ
SQUAM METAPLASIA
BRONCHI
ASKULAJ
SARCOMA
MESENCH
BORDERLINE
SOME OVARIAN TUM
MAL ★
OR BEN
USUALLY ARISED IN
OVARY
TESTIS
TERATOMA
ALL 3 GERM LAYERS
INT EPIT
TEETH
CART
BONE
SKIN
APONYMNAMED
WILMS
HODGKIN D
BURKITT LYMPHOMA
LIPOS
LEIOMYOS
RHABDOMYOS
OSTEOS
PROST
PANC
BREAST
DESMOPLASIA
OFTEN
POLYPO NOD
FIBROVASCULAR
NL

SCM 2013

CLAS° NOM

PAPILLOMA/SEVIGN

- OVARY
  - EXTEND INTO CYSTIC SPACES
- GN
- GN
- BREAST
- GLANDS EPIT
- PROLIFO
- GN
- FIBROA
- ADENOMATOUS PAPIL PROCESSES
- PAPILLARY CYSTA
- Bd VESICLES
- COME CONVEX TIS
- REN PELVIS
- URETHA
- U BLADDER
- FINGERLIKE PROCESSES
- ALSO TRANSIT
- TONGUE
- LARYNX
- OFTEN
- SQUAM
- SKIN
- SFE EPIT
- BRUSES
- ADENOMA
- GLAND EPIT
- MESENC
- LEIOMYOMA
- RHABDO
- LIP
- FIB
- LYMPHOMA
- MOST COM ♀
- UTERINE
- FIBROIDUM
- CHORISTOMA
- HAMARTOMA
- SMALL
- NEOP
- MISPLACED
- PANCREATIC IN STOM
- DISORGANIZED TUMOR LIKE OVER G
- HEMANGIOMA INTRA ACCUM° BD VESICLES

MALIGNANT

- GEN
  - ANAPLASIA
  - CARCINOMA
    - SCC
    - TRANS
    - ADENOC
  - SARCOMA
  - EPON
  - TERAT

GEN

- HEMATOMA
- GRANULOMA
- NEOP
- MALIGNANT ★ ∅SOME
  - LEIOTHELIOMA
  - LYMPHOMA
  - MELANOMA
  - HEPATOMA
  - MALIGNANT
- FIBROMA
- LIPOMA
- -OMA
  - TEND ENCAPSULATED
  - USUALLY WELL DIFFERENTIATED
  - ≈ TIS ORIGIN RESEMBLE
  - GROW SLOW
  - METS
  - IF COMPRESSION CAN HARMFUL
  - EX INTRACRAN TUM > SKIN MAL
    - CAN BE LETHAL

PROPERTIES

MONOCLONALITY

- G6PD isoenzyme
  - OTH x link markers assessed
- HUMARA
  - human
  - non-gen exception
- Kappa chain specificity
  - ~~Body~~
- NEOP prolif°
- SPEC translocation
- Lymphoid origin
  - (B)
  - γ/γ gene rearrangement
  - (T)
  - SPE Ag (markers) ↓ prolif°
  - TCR gene rearr
- MOST
- POLYC prolif°
- MONOC TUM
- POLYC
  - almost always ~~NEOP~~

CLINICAL MANIF°

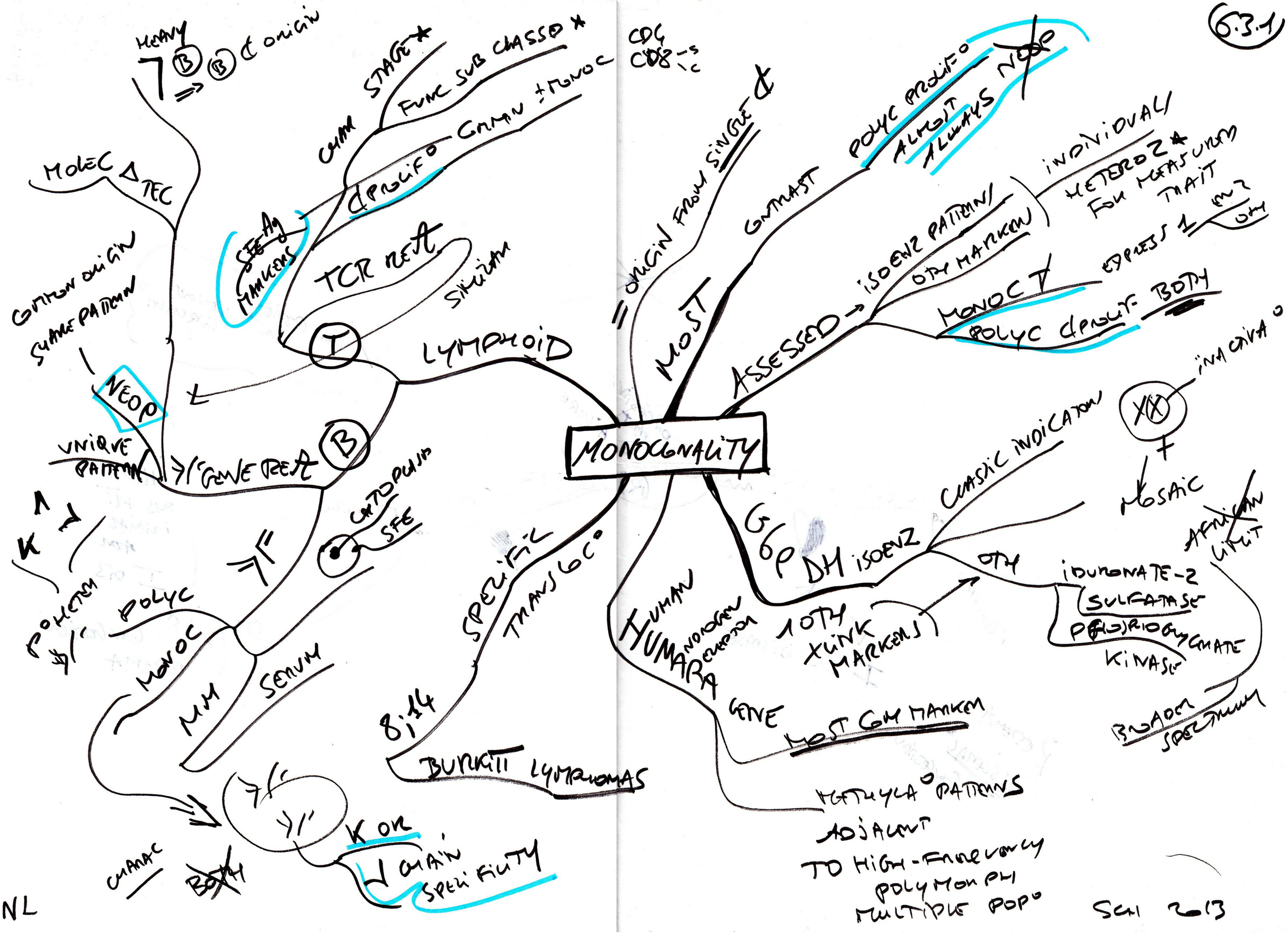
- OTH. ONCOFET Ag
  - CEA
  - AFP
  - &
- PARANEOP SD
  - CUSHING SD
  - ↓ISADH
  - ↓Ca
  - ↑G
  - POLYCYT
  - ↓↑ism
  - ↑ HYPO
  - ↓ HYPER
  - LOAG°
  - SKIN
  - NEURO
  - ENDOC
- ENDOC °N
  - THROMB
  - SEMT-GYN
  - GAN-THERA
  - ↓NUM
  - OVARIAN
  - ADRENOCOR
  - PIT
  - PRL OMA
  - SOMAT ADENOMA (AUDOPUBIC)
  - CONTICOT ADENOMA (BAS MOST OFTEN)
- CACHEXIA
  - WASTING
  - CAHECTIN

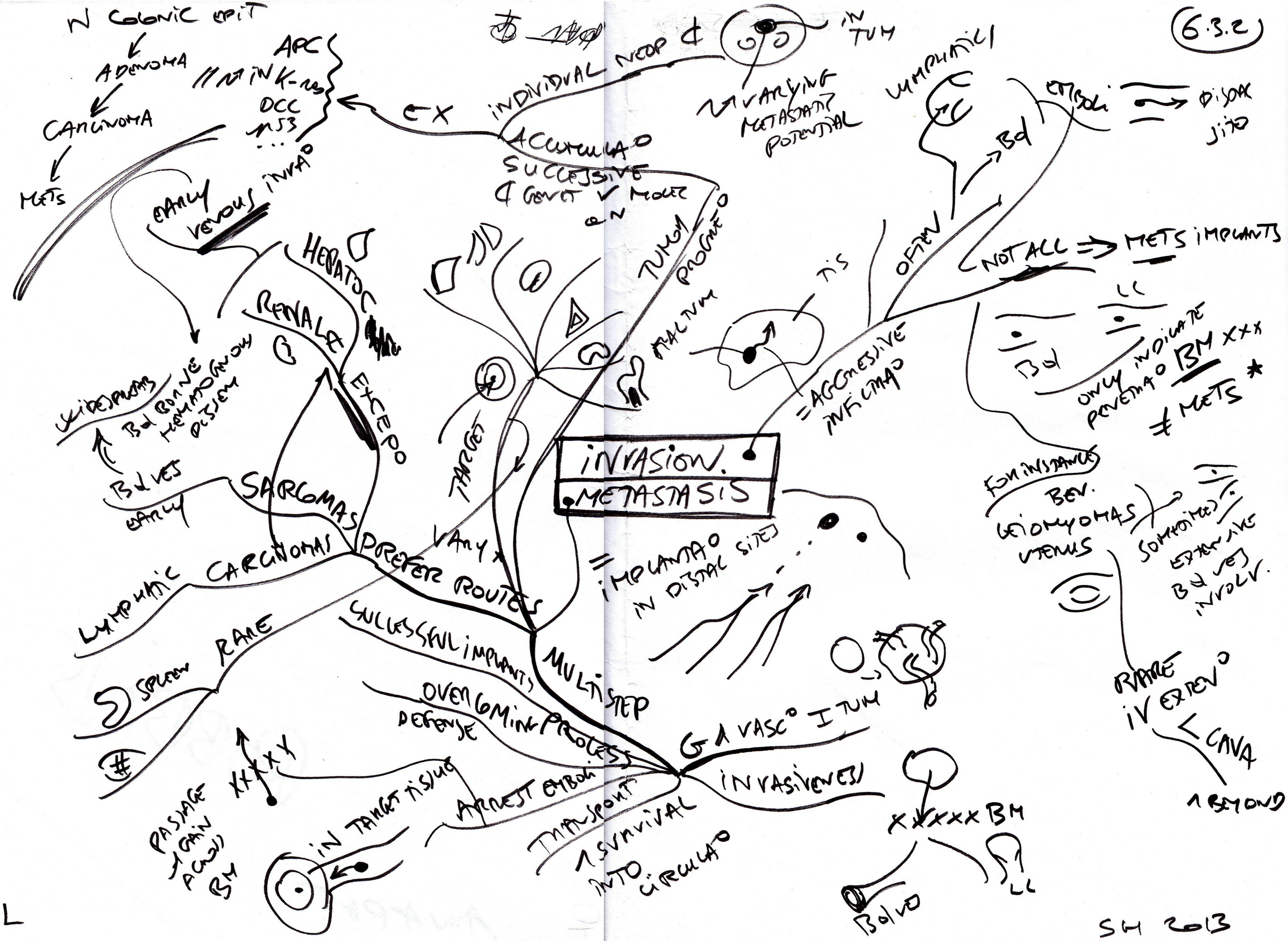
INVASION METASTASIS

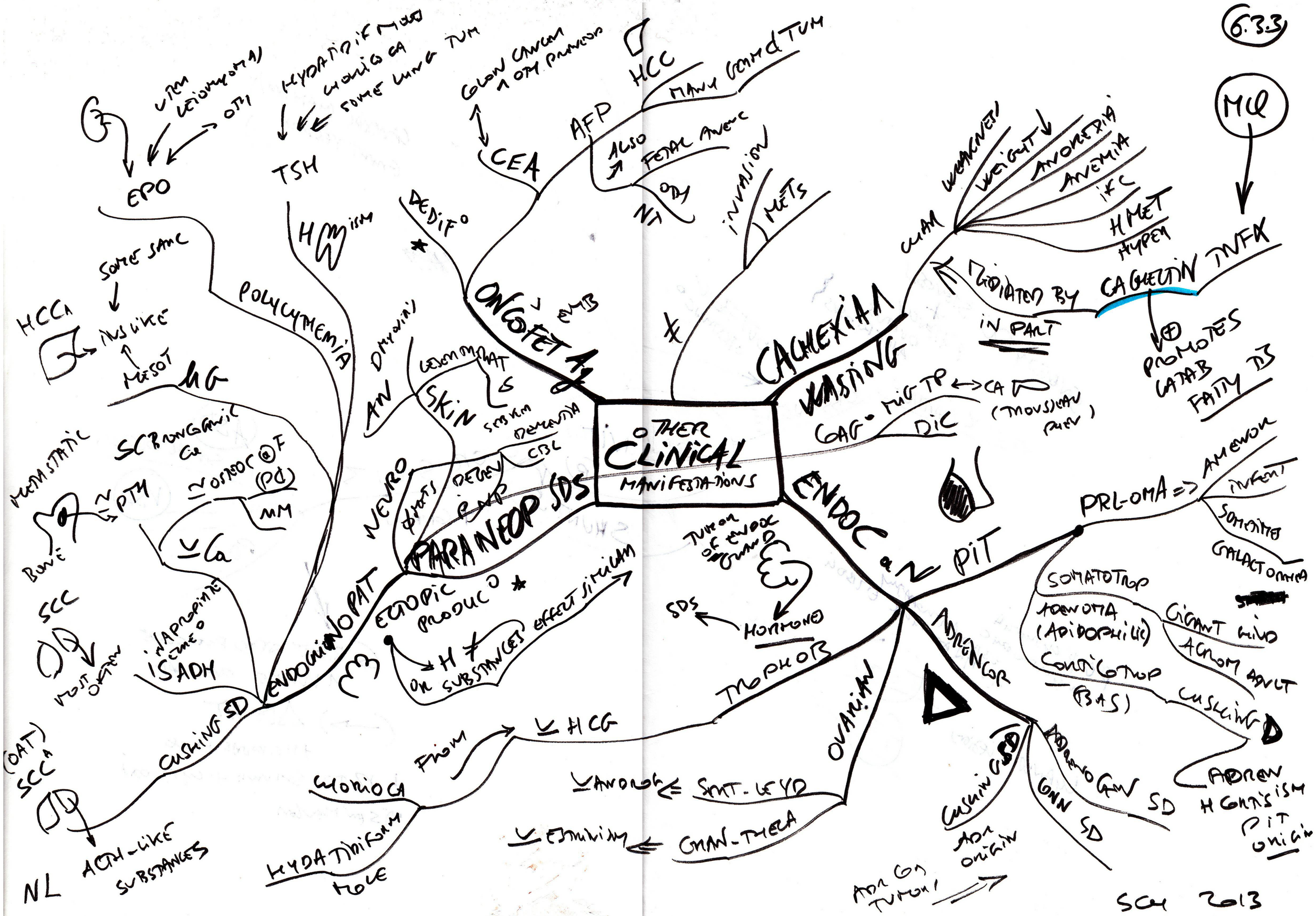
- MULTISTEP PROCESS
  - G↑ VASC°
  - INVASIVENESS
  - TRANSP↑ SURVIVAL
  - ARREST EMBOLI
  - OVERGROWING ◎ TIS
  - IMPLANTS
  - SURGES
  - DEGRADE SE
- PREFER ROUTES
  - SARC
  - CARC
- TARGET ORGANS
- ↑ PROG°

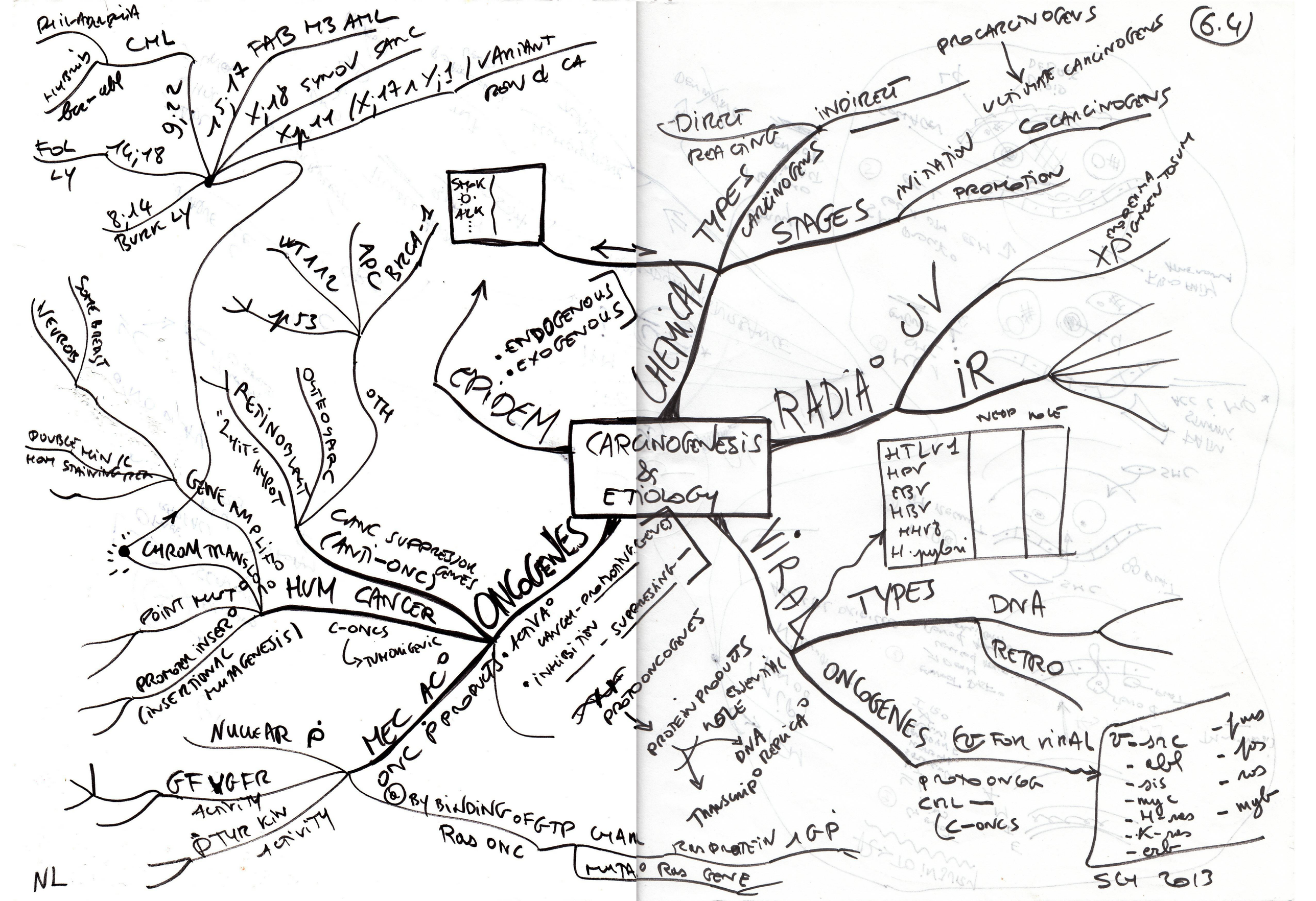
N

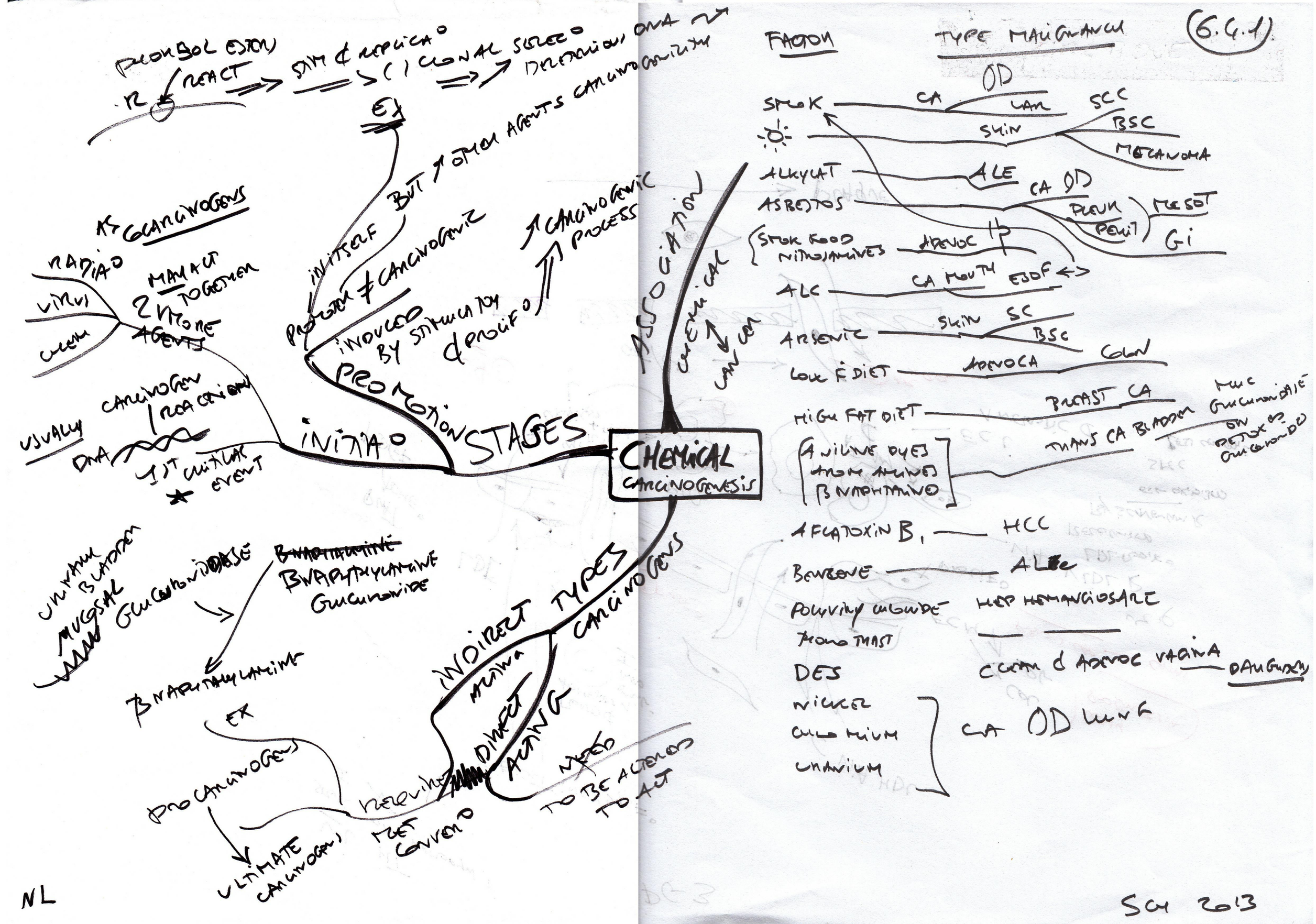
SCH 2013


6.3.1
MONOCLONALITY
LYMPHOID
T
B
HEAVY
CHAIN
STAGE
FUNC SUB CLASSED
CD4
CD8
MOLEC ΔTEC
SFE Ag MARKERS
TCR REA
SIMILAR
ORIGIN FROM SINGLE
MOST
GATMAST
POLYC PROLIFO
ALMOST ALWAYS NOT
INDIVIDUAL/
HETEROZ
FOR MEASURED TRAIT
ISOENZ PATTERN/
OTH MARKER
ASSESSED
MONOC
POLYC
EXPRESS 1
BODY
INACTIVA
MOSAIC
CLASSIC INDICATION
G6PDH ISOENZ
OTH
IDURONATE-2 SULFATASE
PHOSPHOGLYCERATE KINASE
AFRICAN LIMIT
BROADER SPECTRUM
HUMAN
HUMARA
NONDISJ EXPRESSION
10TH XLINK MARKERS
GENE
MOST GM MARKER
HETEROLA PATTERNS
ADJACENT
TO HIGH-FREQUENCY
POLYMORPH
MULTIPLE POP
SPECIFIC
TRANSLOC
8;14
BURKITT LYMPHOMAS
CDC
CDS
GRAN ± MONOC
PROLIFO
CHAM STAGE
FUNC SUB CLASSED
GRAN ORIGIN
SAME PATTERN
NEOP
UNIQUE PATTERN
GENE REA
B
CYTOPLASM
SFE
MOLEC ΔTEC
HEAVY
B
B
CHAIN
SPECIFICITY
K OR
CHARAC
BOTH
POLYC
MONOC
MM
SERUM
NL
SCH 2013


6.3.2
N COLONIC EPIT
ADENOMA
CARCINOMA
METS
APC
K-RAS
DCC
P53
EX
INDIVIDUAL NEOP
IN TUM
VARYING METASTATIC POTENTIAL
LYMPHATICS
EMBOLI
DISSEM JIZO
ACCUMULATED SUCCESSIVE
EARLY VENOUS INVA°
HEPATIC
RENAL
EXTRAPO
TUMOR PROGNO
TIS
OFTEN
NOT ALL
METS IMPLANTS
ONLY INDICATE PREVIOUS BM XXX
≠ METS *
BD BONE HEMATOGENOUS DISSEM
BD VES EARLY
SARCOMAS
PREFER ROUTES
LYMPHATIC CARCINOMAS
RARE
SPLEEN
SUCCESSFUL IMPLANTS
OVERCOMING PROCESS
DEFENSE
MULTISTEP
INVASION
METASTASIS
TARGET
ANY
IMPLANTAO IN DISTAL SITES
AGGRESSIVE INFILTRAO
FOR INSTANCE
BEN. LEIOMYOMAS UTERUS
SOMETIMES EXTENSIVE BD VES INVOLV.
RARE IV EXTENS°
CAVA
BEYOND
GI VASC° TUM
INVASIVENESS
PASSAGE GAIN ACCESS BM
IN TARGET TISSUE
ARREST EMBOLI
TRANSPORT SURVIVAL INTO CIRCULAT°
XXXXX BM
BOVD
LL
NL
SM 2013


OTHER CLINICAL MANIFESTATIONS
ONCOFETAL
AFP
HCC
MANY CONGENITAL TUM
ALSO ↑ FETAL ANOMALIES
N1
CEA
COLON CANCER
↑ OTH. PANCREAS
HYDATIDIFORM MOLE
CHORIOCA
SOME LUNG TUM
TSH
EPO
UTER LEIOMYOMA
OTH
POLYCYTHEMIA
HYPERTHYROIDISM
ADENOCA
INVASION
METS
CACHEXIA
WASTING
CLIN WEAKNESS
WEIGHT ↓
ANOREXIA
ANEMIA
IFC
HMET
HYPER
MEDIATED BY CACHECTIN TNFA
IN PART
PROMOTES CATAB
FATTY ACIDS
MCQ
PARANEOPLASTIC SYNDROMES
NEURO
PHYSIOL DEGEN
CMP
DERMATOMYOSITIS
SKIN
SEBORRHEIC DERMATOSIS
CBL
ANDROGENIC
HYPERCALCEMIA
BONE
PTH
SCC
SCC LUNG
OSMOC (PC)
MM
Ca
SCC
VOLUME
ADH
ISADH
ENDOCRINOPATHY
ECTOPIC PRODUCTION
H ≠ ON SUBSTANCE EFFECT SIMILAR
TUMOR OF ENDOCRINE
SDS
HORMONES
TROPHOBL
OVARIAN
HCG
FROM
CHORIOCA
HYDATIDIFORM MOLE
ANOROCH
SMT-LEYD
ESTROGEN
GRAN-THECA
CUSHING SD
(OAT) SCC
ACTH-LIKE SUBSTANCES
NL
ENDOC & PIT
PRL-OMA
AMENORRHOEA
INFERT
SOMETIMES
GALACTORRHOEA
SOMATOTROP
ADENOMA (ACIDOPHILIC)
GIGANT KIND
ACROM ADULT
CORTICOTROP
(BAS)
CUSHING
ADRENOCOR
CUSHING SD
ADRENOCORT SD
GNN SD
ADRENOCORTICISM
PIT ORIGIN
ADR CA TUMOR
ADR ORIGIN
SCH 2013

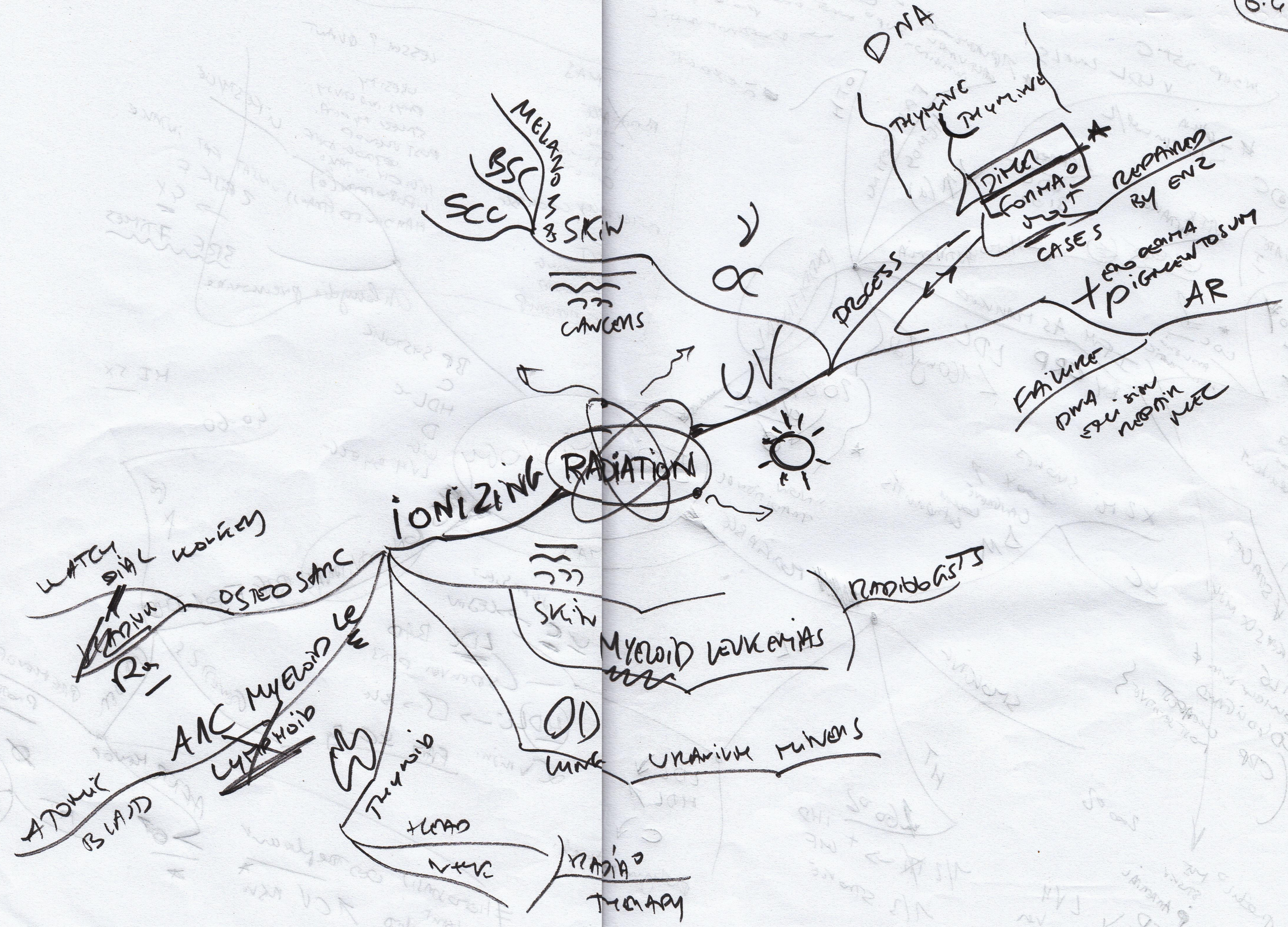

(6.4)
CARCINOGENESIS & ETIOLOGY
CHEMICAL
TYPES
DIRECT
REACTING
INDIRECT
PROCARCINOGENS
ULTIMATE CARCINOGENS
CARCINOGENS
STAGES
INITIATION
PROMOTION
COCARCINOGENS
RADIA°
UV
XP
MELANOMA
DIGESTIVE TOXIN
IR
VIRAL
NEOP NOLÉ
HTLV1
HPV
EBV
HBV
HHV8
H. pylori
TYPES
DNA
RETRO
ONCOGENES
FOR VIRAL
v-src
- abl
- sis
- myc
- H-ras
- K-ras
- erb
- fms
- fos
- ras
- myb
PROTOONCOGENES
CELL
C-ONCS
ONCOGENES
ACTIVA°
CANCER-PROTOONCOGENES
• INHIBITION
— SUPPRESSING
PROTOONCOGENES
PROTEIN PRODUCTS
ESSENTIAL NOLÉ
DNA REPLICA°
TRANSCRIP° REPLICA°
ONC PRODUCTS
MEC AC°
BY BINDING OF GTP CHAN
RAS PROTEIN 1 GP
RAS ONC
MUTA° RAS GENE
CANC SUPPRESSION GENES
(ANTI-ONC)
HUM CANCER
C-ONCS
TUMORIGENIC
POINT MUT°
PROMOM INSER°
(INSERTIONAL MUTAGENESIS)
NUCLEAR P
GF VGFR
ACTIVITY
PTYR KIN
ACTIVITY
GENE AMPLIFIC°
CHROM TRANSLOC°
DOUBLE MIN C
HOM STAINING REG
NEUROB
SOFT BREAST
RETINOBLAST
"2 HIT" HYPOT
OSTEOSARC
OTH
WT1 A12
APC BRCA-1
P53
FOL
LY
t4;18
8;14
BURK LY
PHILADELPHIA
CML
HUMAN
BCR-ABL
9;22
t5;17
FAB M3 AML
X;18 SYNOV SARC
X;11 (X;17 ∧ X;1) VARIANT
PROV CA
SMOK
ALK
ENDOGENOUS
EXOGENOUS
EPIDEM
NL
SCH 2013


(6.4.1)
CHEMICAL CARCINOGENESIS
STAGES
INITIATION
PROMOTION
PROGRESSION ≠ CARCINOGENIC
INVOLVED BY STIMULATION & PROLIFO
BUT ↑ OTHER AGENTS CARCINOGENICITY
EX
AS CARCINOGENS
RADIATION
VIRUS
CHEM
MANY AT TOGETHER
2 MORE AGENTS
USUALLY
CARCINOGEN REACTION
DNA
1ST CRITICAL EVENT
*
PROMOTION
REACT
STIM & REPLICATION
CLONAL SELECTION
DEGENERATION DNA
ASSOCIATION
CHEMICAL
CARCINOGENS
FACTOR
TYPE MALIGNANCY
SMOK
CA
OD
LAR
SCC
SKIN
BSC
MELANOMA
ALKYLAT
ALE
ASBESTOS
CA OD
PLEUR
PERIT
MESOT
GI
SMOK FOOD NITROSAMINES
ADENOC
ALC
CA MOUTH
ESOF
ARSENIC
SKIN
SC
BSC
LOW FIBER DIET
ADENOCA
COLON
HIGH FAT DIET
BREAST CA
ANILINE DYES FROM ANILINES & NAPHTHALENE
TRANS CA BLADDER
MUC GLUCURONIDASE ON PETUX IS GLUCURONIDE
AFLATOXIN B1
HCC
BENZENE
ALE
POLYVINYL CHLORIDE
HEP HEMANGIOSARC
ASBESTOS
MESOTHEL
DES
CCCAM & ADENOC VAGINA
DAUGHTER
NICKEL
CHROMIUM
URANIUM
CA OD LUNG
URINARY BLADDER
MUCOSAL GLUCURONIDASE
BNAPHTHYLAMINE GLUCURONIDE
BNAPHTHYLAMINE
EX
PROCARCINOGENS
ULTIMATE CARCINOGEN
REQUIRE FOR CONVERS
INDIRECT TYPES CARCINOGENS
MUTAGEN
DIRECT ACTING
NEED TO BE ACTIVATED TO ACT

NL

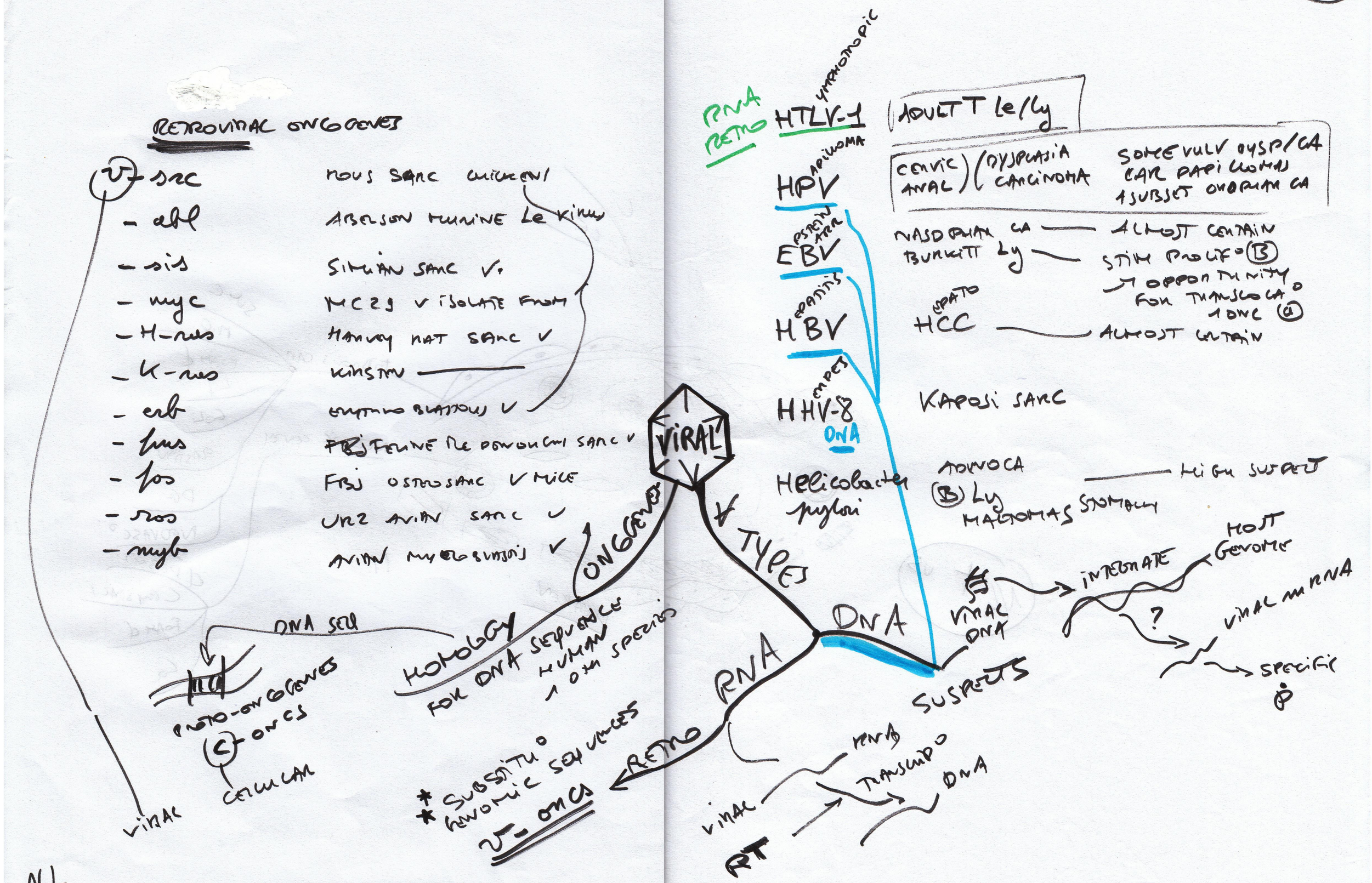
SCH 2013

6.6.2



NL

Sem 2013


RETROVIRAL ONCOGENES
v-SRC
ROUS SARC CHICKEN
- abl
ABELSON MURINE Le KINAS
- sis
SIMIAN SARC V.
- myc
MC29 V ISOLATE FROM
- H-ras
HARVEY RAT SARC V
- K-ras
KIRSTEN
- erb
ERYTHRO BLASTOSIS V
- fms
FELINE FIBROSARC V
- fos
FBJ OSTEOSARC V MICE
- ros
UR2 AVIAN SARC V
- myb
AVIAN MYELOBLASTOSIS V
ONCOGENES
VIRAL
CELLULAR
PROTO-ONCOGENES
c-ONCS
DNA SEQ
HOMOLOGY
FOR DNA SEQUENCE
HUMAN
1 OTH SPECIES
* SUBSTITUTO
* GENOMIC SEQUENCES
v-ONCS
RETRO
RNA
VIRAL
RT
RNA
TRANSCRIPTO
DNA
DNA
VIRAL
DNA
SUSPECTS
INTEGRATE
HOST GENOME
?
VIRAL mRNA
SPECIFIC
PROTEIN
VIRAL
TYPES
RNA RETRO
HTLV-1
LYMPHOTROPIC
ADULT T Le/Ly
HPV
PAPILLOMA
CERVIC ANAL
DYSPLASIA CARCINOMA
SOME VULV DYSP/CA
CAR PAPILLOMAS
1 SUBSET OROPHAR CA
EBV
PSEUDO ARR
NASOPHAR CA
BURKITT Ly
ALMOST CERTAIN
STIM PROLIF° (B)
OPPORTUNITY FOR TRANSLOCA° 1 ONC (c)
HBV
HEPATITIS
HCC
HEPATO
ALMOST CERTAIN
HHV-8
HERPES
DNA
KAPOSI SARC
Helicobacter pylori
ADENOCA
(B) Ly
MALTOMAS
STOMACH
HIGH SUSPECT
VIRAL
DNA
DNA
VIRAL
NL
SCH 2013

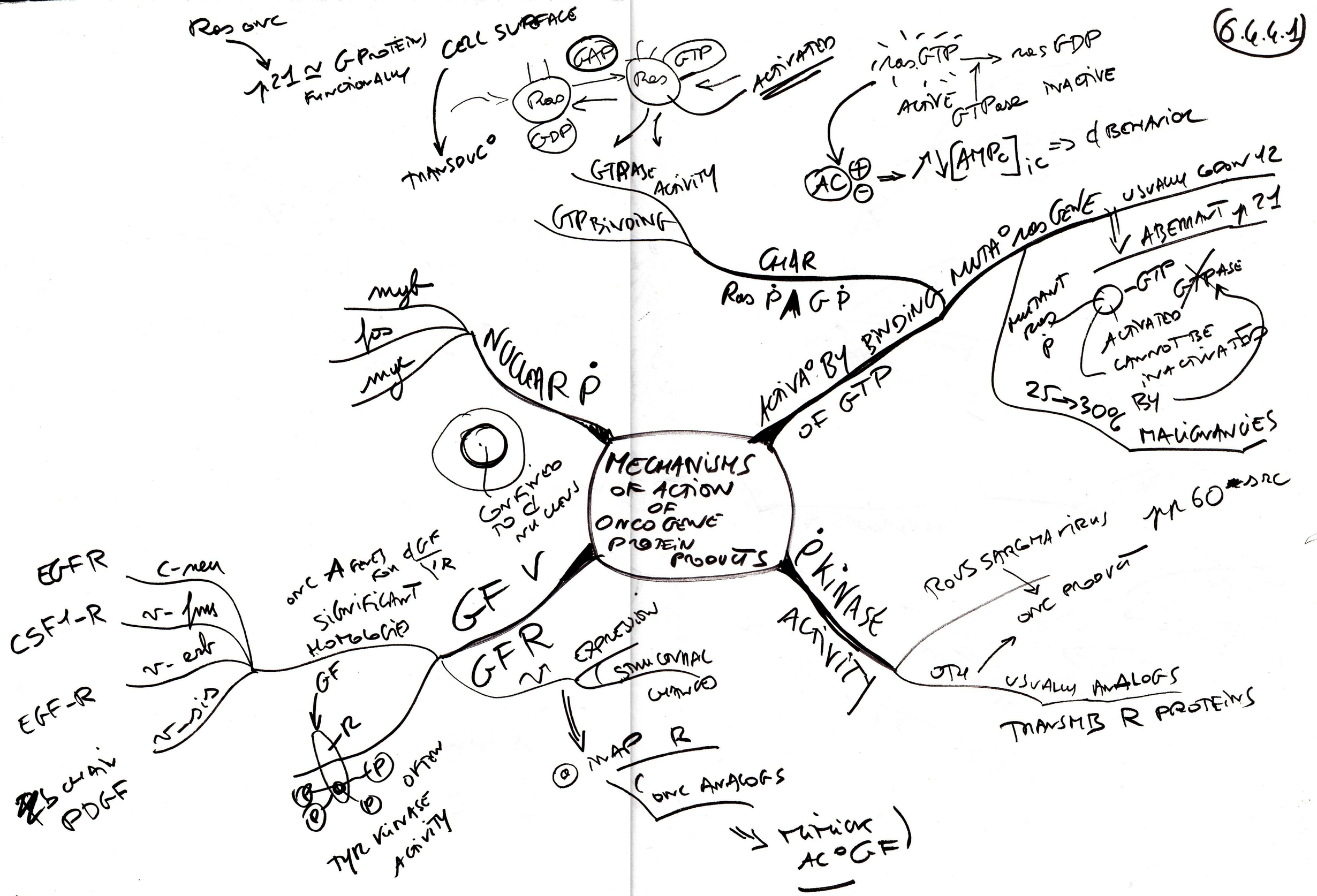
(6.4.4)

ONCOGENES & CANCER

- PROTO-ONC → P. PRODUCTS
  - ROLES
    - DNA REPLICATION
    - TRANSCRIPTION
- MECHANISMS ACTION
  - ONC P. PRODUCTS
    - @ BY – GTP (BINDING)
      - RAS ONC CODE 1 GP
      - MUTATIONS GENE
    - P. KINASE
    - GF VGFR
    - NUCLEAR P.
- CANCER SUPPRESSION
  - APC
  - BRCA-1
  - WT12
  - P73
  - OTH
  - OSTEOSARC
  - RETINOBLAST
  - DNA GENES (ANTI-ONC)
    - "2 HIT"
- C-ONCS PROTOON INSER.
  - (INSERTIONAL MUTAGENESIS)
  - MUT.
  - TUMORIGENICITY
  - GENE AMPLIFICATION
    - SOME BREAST
    - NEUROBLASTOMA
    - DOUBLE MINUTES CHROMOS
  - CHROM TRANSLOCATION
    - 8;14 BURK LY
    - 14;18 FOL LY
    - 9;22 CML
    - 15;17 FAB M3 AML
    - X;18
    - SYNOVSARC
    - X11 RCC

NL

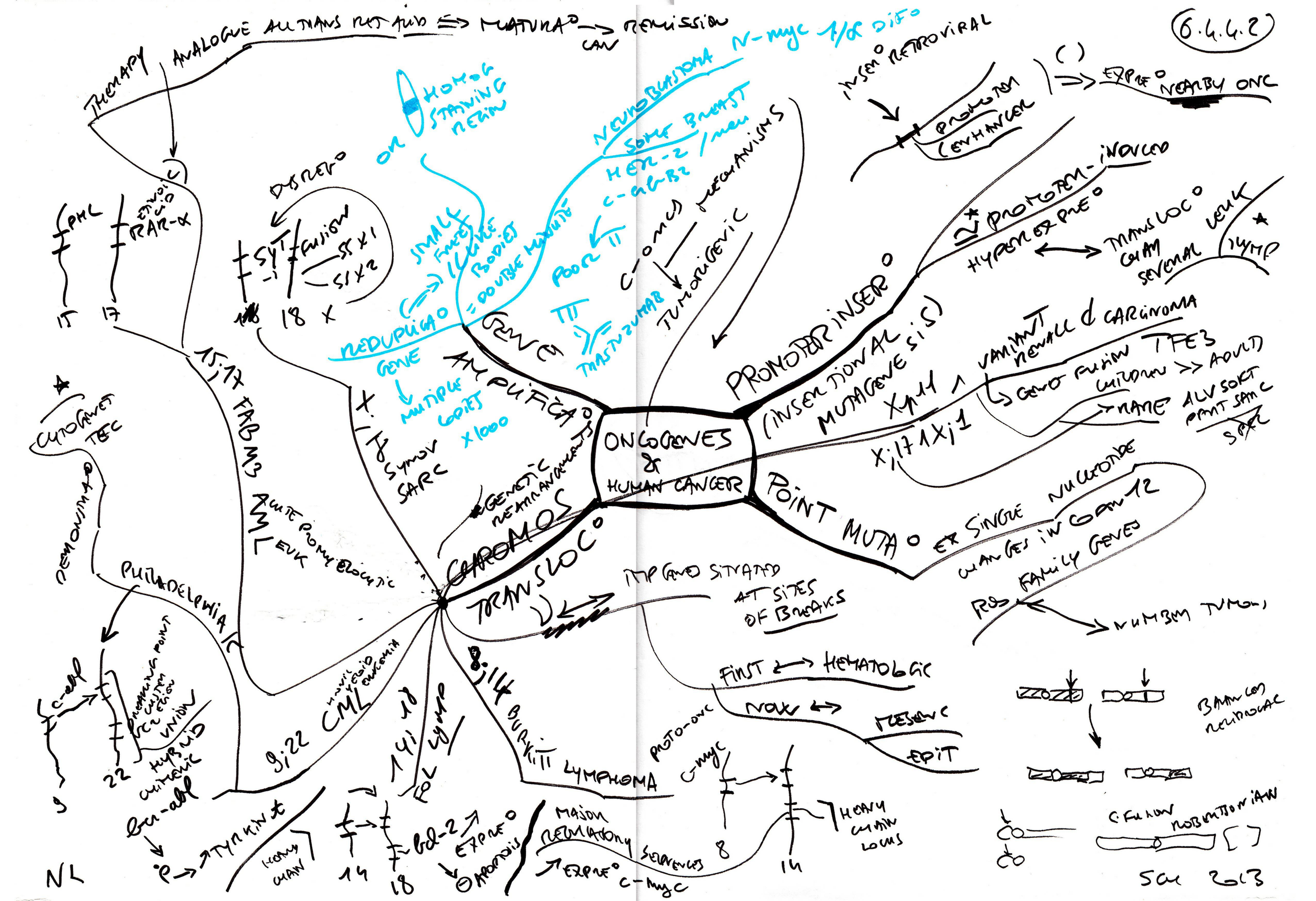
SCH 2013


MECHANISMS OF ACTION OF ONCOGENE PROTEIN PRODUCTS
GAP
GTP
Ras
Ras
GDP
ACTIVATED
TRANSDUC°
GTPASE ACTIVITY
GTP BINDING
ras GTP → ras GDP
ACTIVE
GTPase
INACTIVE
AC ⊕ ⊖ ⇒ ↑↓[AMPc]ic ⇒ ¢ BEHAVIOR
GHAR
Ras P̈ ▲ G P̈
MUTA° ras GENE
USUALLY GOOD 12
ABERRANT ↑ 21
MUTANT ras P̈
-GTP
GTPASE
ACTIVATED
CANNOT BE INACTIVATED
25→30% BY MALIGNANCIES
ACTIVA° BY BINDING OF GTP
myb
fos
myc
NUCLEAR P̈
GENES TO ↑ NUCLEUS
EGFR
CSF1-R
EGF-R
PDGF
c-neu
v-fms
v-erb
v-sis
onc A FAMILY FOR dGF/IR
SIGNIFICANT HOMOLOGIES
GF
R
P
TYR KINASE ACTIVITY
GF V
GFR
EXPRESSION
STIMULATORY CHANGES
MAP R
onc ANALOGS
MITOGEN AC°GF
P̈KINASE ACTIVITY
ROUS SARCOMA VIRUS
p60 src
src
onc PRODUCT
OTH
USUALLY ANALOGS
TRANSMB R PROTEINS

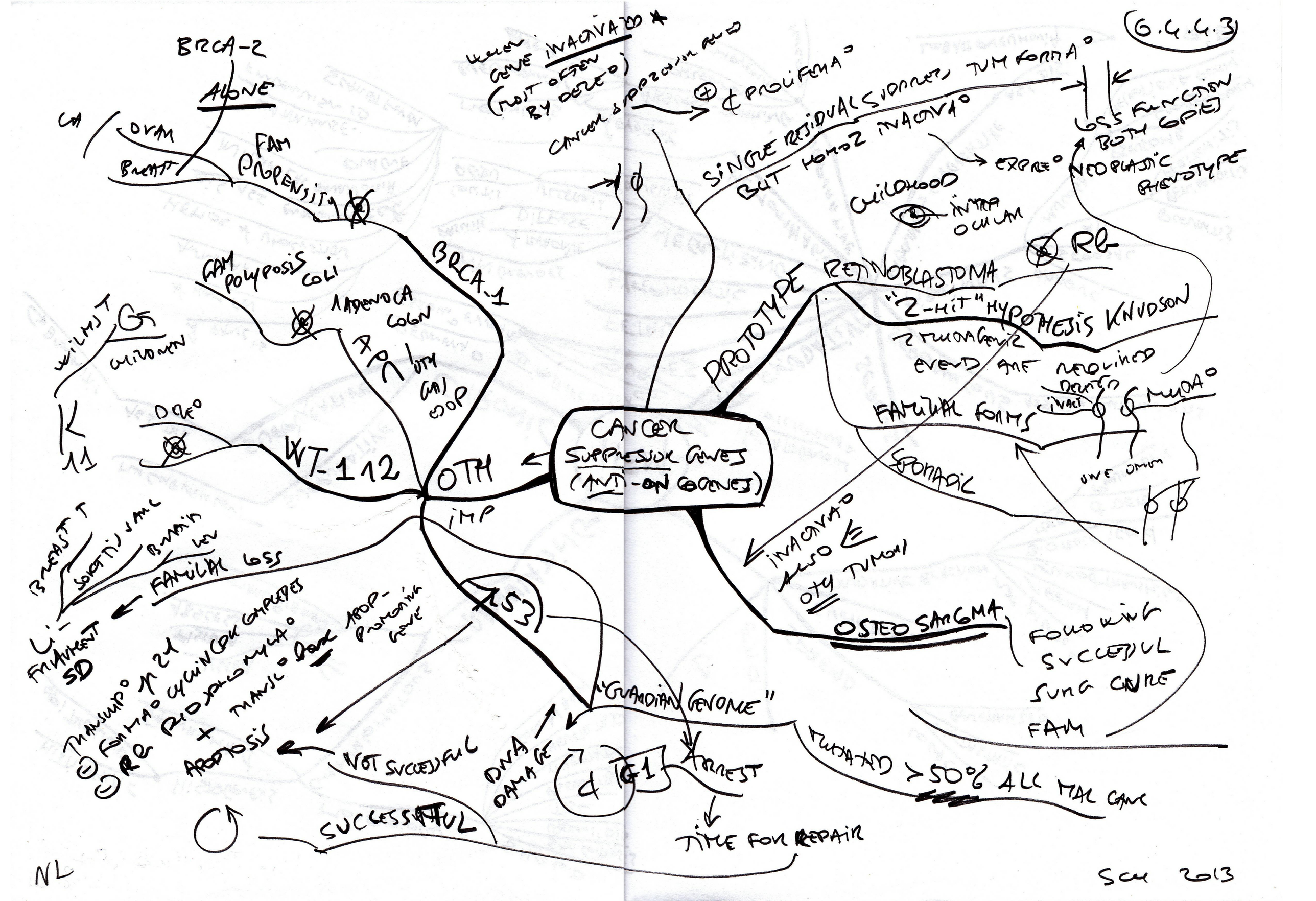
NL

SCH 2013

6.4.4.2


ONCOGENES & HUMAN CANCER
GENES
AMPLIFICATION
REDUPLICATION
GENE
MULTIPLE COPIES
X1000
SMALL FREE (CLUSTER) BODIES = DOUBLE MINUTES
POOR
TTT
TRASTUZUMAB
COMMON MECHANISMS
TUMORIGENIC
NEUROBLASTOMA
N-myc
SOME BREAST
HER-2 / neu
c-erbB2
HOMOG STAINING REGION
DISTRO
SYT
FUSION
SSX1
SSX2
18 X
PML
RAR-α
15
17
15;17
FAB M3
ACUTE PROMYELOCYTIC
AML
EVK
CYTOGENET TEC
DEMONSTRATE
PHILADELPHIA
9;22
CML
MYELOID LEUKEMIA
c-abl
9
22
bcr-abl
TYROSINE
PROMOTER INSERTION
(INSERTIONAL MUTAGENESIS)
PROMOTER
ENHANCER
INSERTION RETROVIRAL
EXPRESSION NEARBY ONC
PROTO-ONC
INDUCED
HYPEREXPRESSION
TRANSLOCATION
CHAIN
SEVERAL
LEUK
LYMP
X;14
BURKITT LYMPHOMA
c-myc
8
14
HEAVY CHAIN LOCUS
14;18
FL LYMP
bcl-2
EXPRESSION
APOPTOSIS
MAJOR REARRANGEMENT SEQUENCES
EXPRESSION c-myc
TRANSLOC
IMPLICATED SITUATED AT SITES OF BREAKS
FIRST
HEMATOLOGIC
NOW
RESERVE
EPIT
Xp11
VARIANT RENAL CARCINOMA
GENOT FUSION TFE3
CHILDREN >> ADULTS
NAME ALVEOLAR PART SARC
SARC
POINT MUTATION
EX SINGLE NUCLEOTIDE CHANGES IN COMM 12
RAS FAMILY GENES
NUMBER TUMORS
BARR CON RECIPROCAL
C FUSION
ROBERTSONIAN
SCH 2013
NL

(6.4.4.3)



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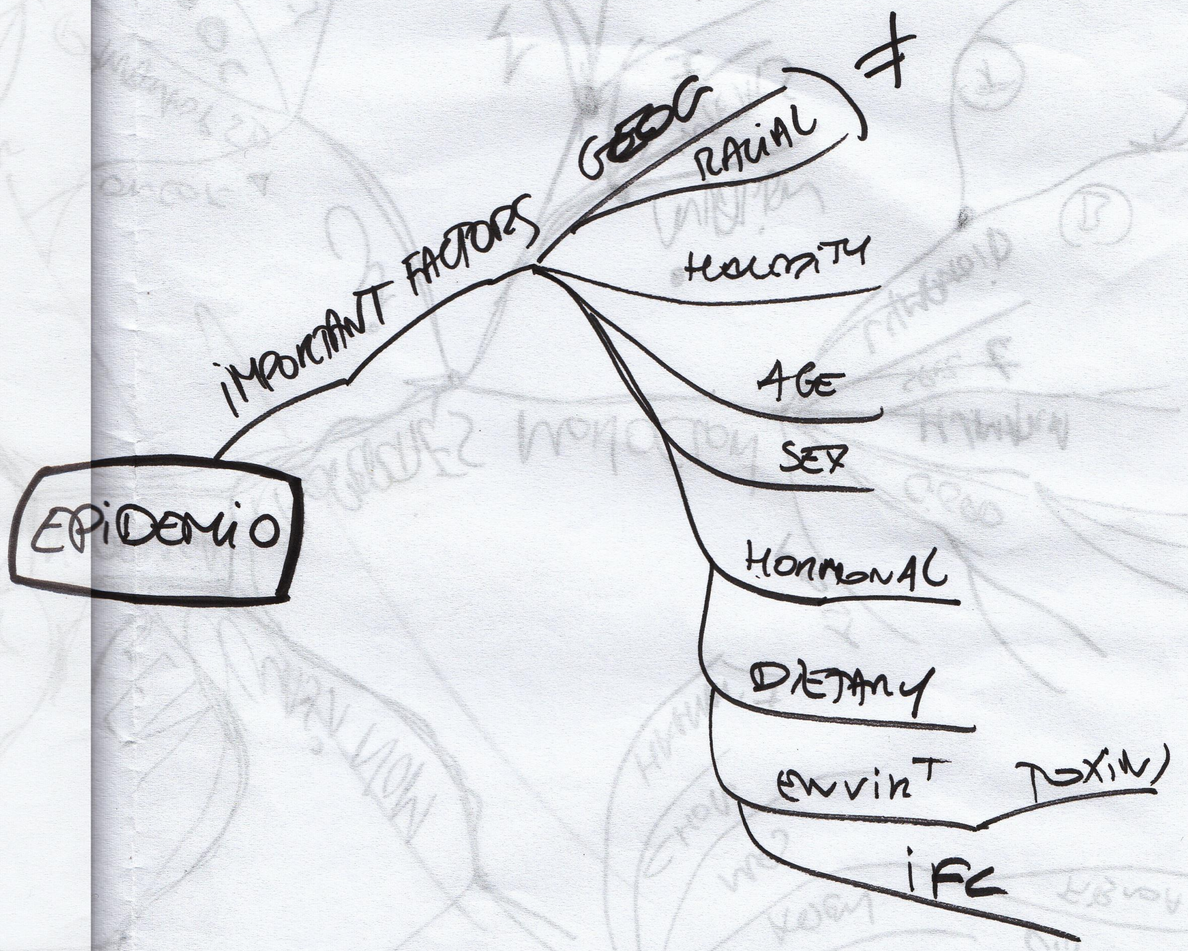
SCM 2013


EPIDEMIO
IMPORTANT FACTORS
GEOG
RACIAL
≠
HELIOSITY
AGE
SEX
HORMONAL
DIETARY
ENVIR^T
TOXINS
IFC

NL

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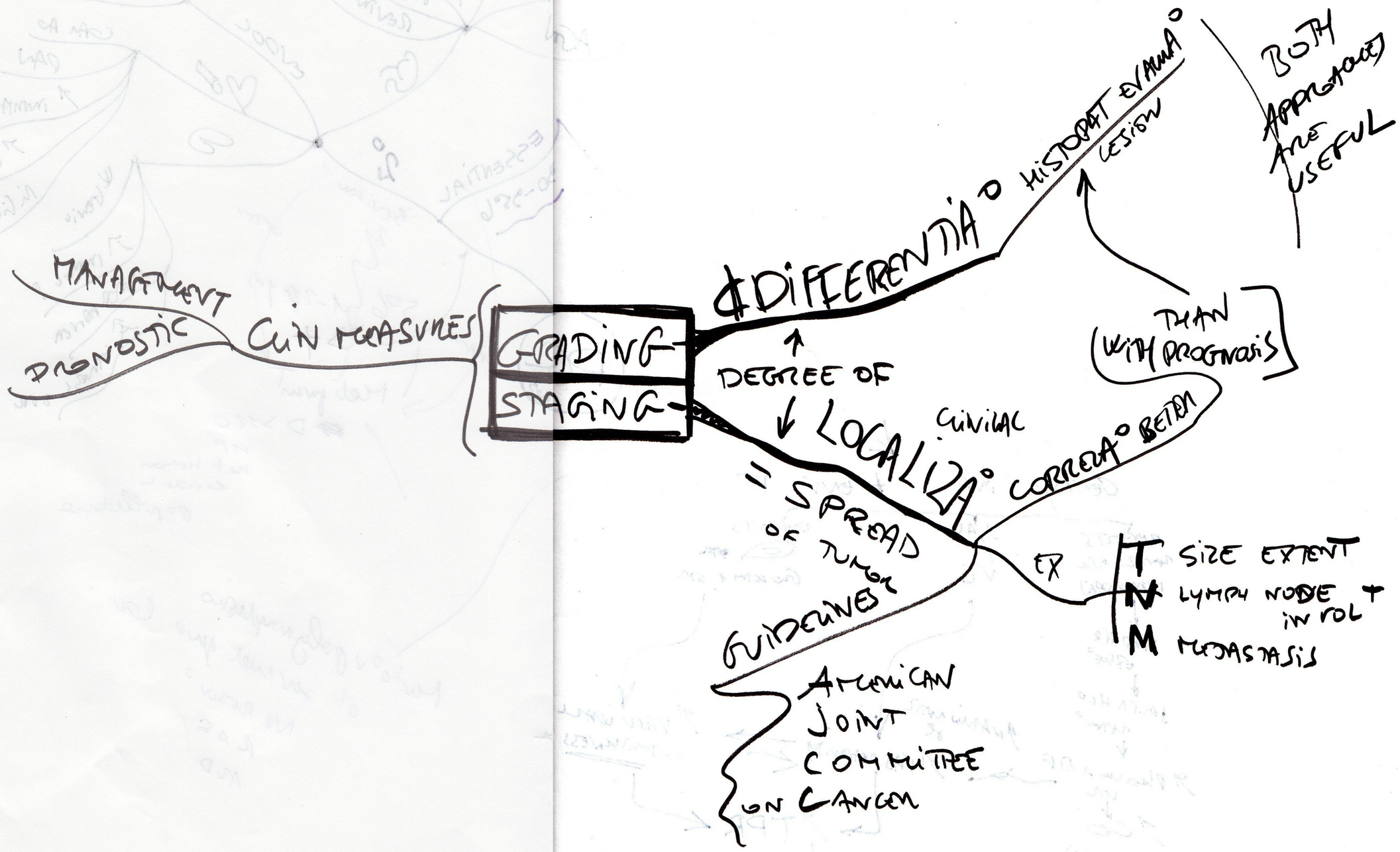
OTHER NEOPLASTIC DISORDERS WITH KNOWN DNA DEFECTS

- BCC
  - SCC
  - MELANOMA
  - SKIN CANC
  - ← UV
- NUCLEOTIDE EXCISION REPAIR
  - PYRIMIDINE (OFTEN THYMINE) DIMERS (CROSS LINKED) RESIDUES
- AR
  - DEFECTS GENES
  - + GERMINOMA PIGMENTOSUM
- RISK
  - TRADOM
- VON RECKLINGHAUSEN
  - NF (GERMINOMA PIGMATOSES) 1
  - 1 NF 1
  - BENIGN NEUROFIBROMAS
    - CAFÉ AU LAIT SPOTS
    - IRIS HAMARTOMAS
    - ↑ RISK OF FIBROSARCOMAS
  - MULTIPLE
  - ⇐ MUTATIONS NF-1 SUPPRESS GENE
    - FO GAP INACTIVATE SELES
    - P
- MEN II a 1 ret
  - MULTIPLE ENDOCRINE NEOPLASIA
  - FAMILIAL CA
    - MEDULLARY CA
    - BILAT PHEO (OR NORMOTENSIVE)
    - ↑ HYPERPLASIA
    - TCM
  - MUTO
    - ret PROTO-ONC
    - TRANSLO → GANGLIONEUROMA
  - DEMONSTRATE ret MUTATIONS
    - ⇐ SURVEILLANCE DVPT
- HNPCC
  - CONSTANT ONGOING ANALYSIS
  - LYNCH SD
    - MLH1
      - → GENOMIC INSTABILITY
    - MSH2
    - MSH6
    - PMS2
  - INHER MUTO ONE JENERAL DNA REPAIR GENES
  - PREMIPE
    - MUTATIONS REPAIR DEFECTS LOSS ↑ EXPO
    - ↓ INSTABILITY IN MICROSATELLITE REPEAT SEQ
    - REPLICATION ERROR PHENOTYPE
  - SCREENING
    - HISTORY
  - NONE DIRECTLY ASSOCIATED TO TRANSFO MUTO
    - OTHER GENES
  - LOW RELATIVE TUMORS
- SERRATED ★
  - PRECURSOR ADENOMAS
  - RATHER THAN TUBULAR
  - APC MAD PATHW
- NIGHT
- OTHER VARIANT MUTATIONS
  - BRAIN
  - SKIN
  - OVAR


MANAGEMENT
PROGNOSTIC
CLIN MEASURES
GRADING
STAGING
DIFFERENTIA°
HISTOPATH EVALUA°
LESION
BOTH APPROACHES ARE USEFUL
THAN (WITH PROGNOSIS)
DEGREE OF
LOCALIZA°
CLINICAL
CORRELA° BETWN
= SPREAD OF TUMOR
GUIDELINES
AMERICAN JOINT COMMITTEE ON CANCER
EX
T SIZE EXTENT
N LYMPH NODE INVOL +
M METASTASIS

NL

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