Clinical profile of pediatric oncology patients

managed and treated in Children's & Adolescent's Hematology - Oncology Unit of 2nd Paediatric Department,

School of Medicine, Aristotle University of Thessaloniki,

AHEPA General University Hospital, Greece

Emmanouel Hatzipantelis

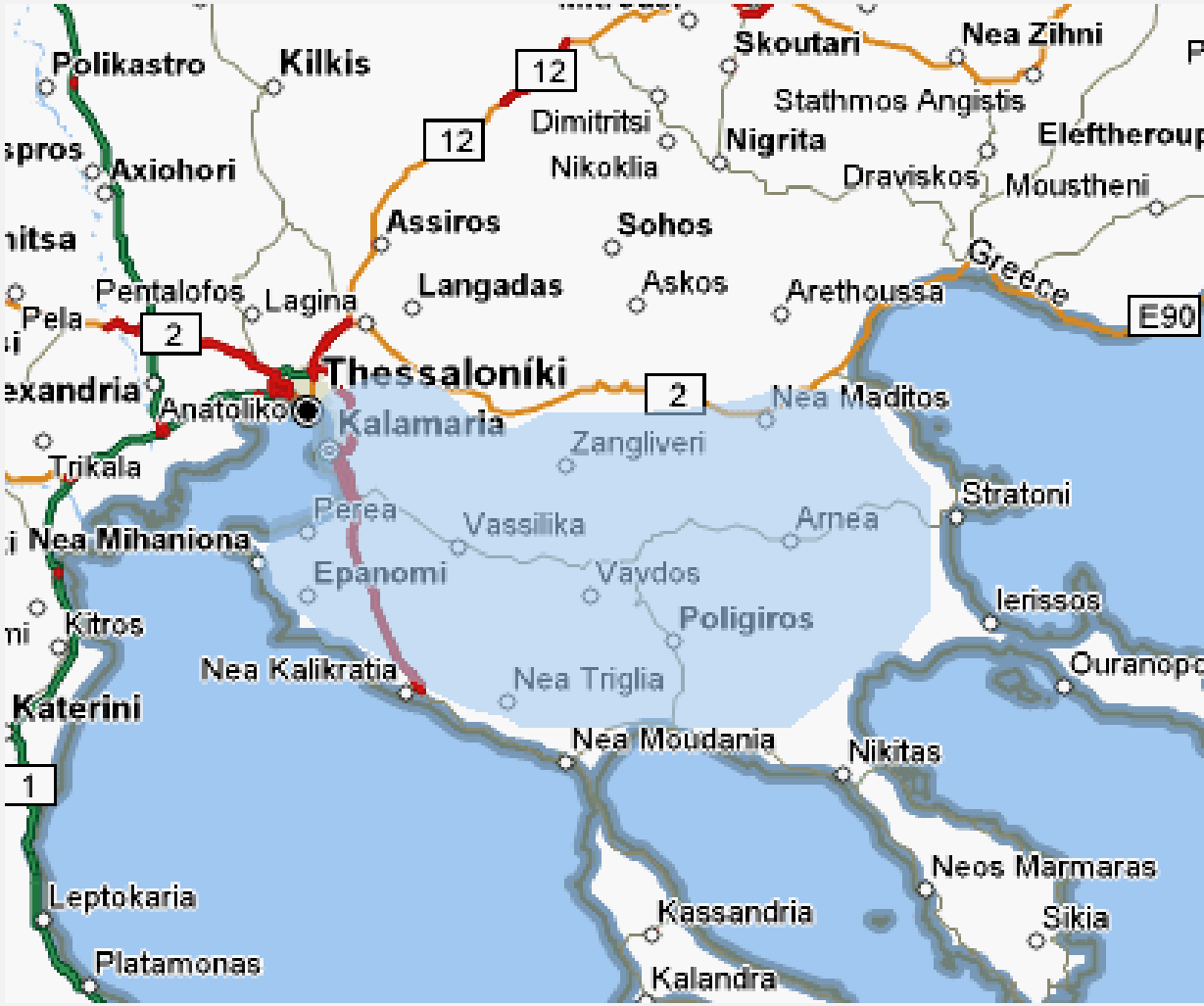
Professor in Paediatrics & Paed Haematology-Oncology

Head, Chidren's & Adolescent's Hematology-Oncology Unit of

B' Paediatric Department, School of Medicine,

Aristotle University of Thessaloniki

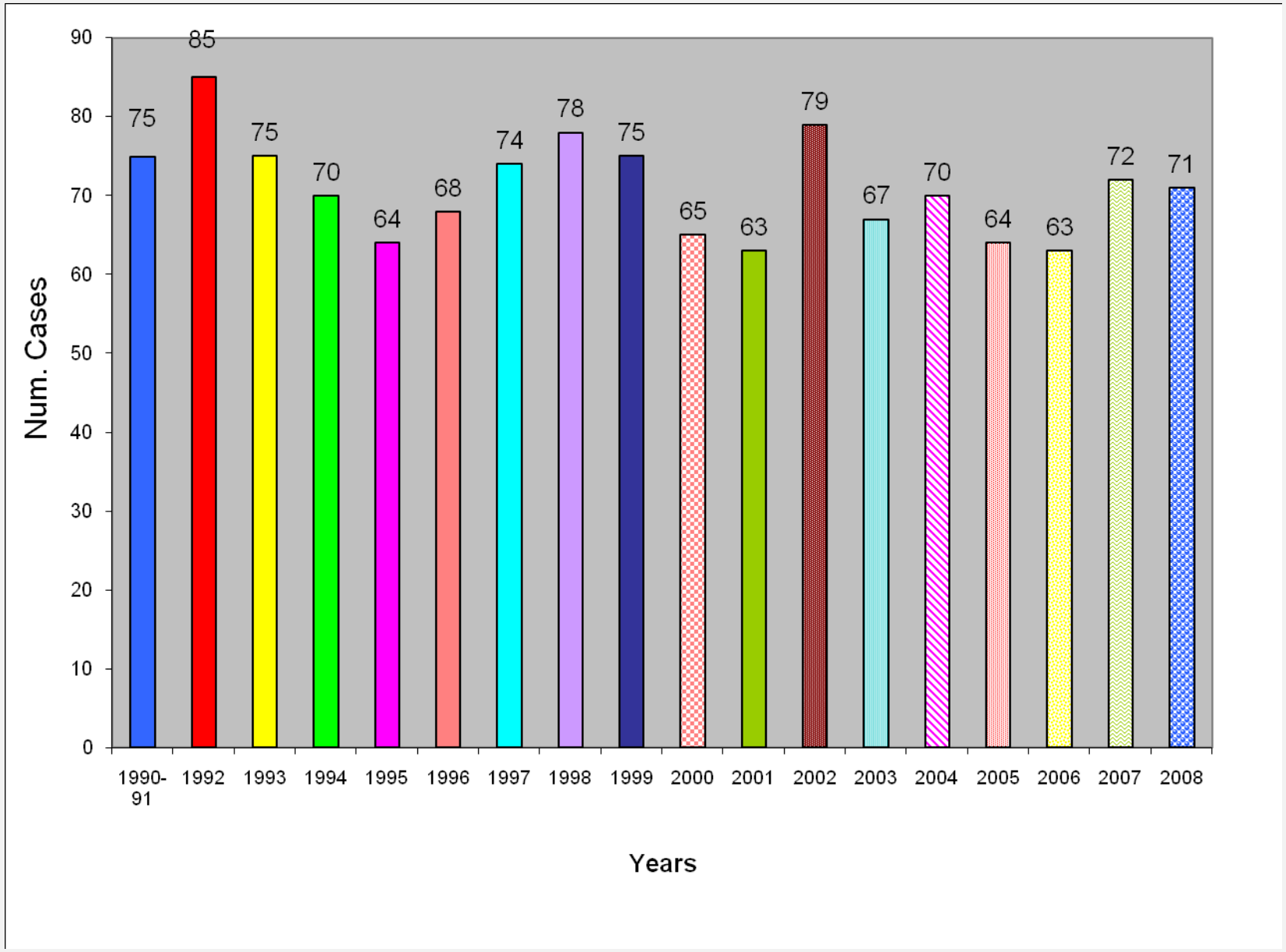

GREECE
BULGARIA
FYROM
ALBANIA
TURKEY
Seres
Kavala
Komotini
Edessa
Thessaloniki
Thasos
Samothraki
Mt Olympus
▲(2917m)
Zagoria
Meteora
Corfu
Corfu
Ioannina
Larisa
Sporades
Northeastern
Aegean
Islands
Lesvos
Skyros
Ionian
Islands
Lamia
EVIA
AEGEAN
SEA
Ionian
Sea
Lefkada
Agrinio
Livadia
Patras
Chios
Kefallonia
Athens
Samos
Corinth
Amaliada
Argos
Piraeus
Ikaria
Zakynthos
Tripolis
Mykonos
The Mani
Peloponnese
Saronic
Gulf
Islands
Naxos
Kos
Ios
Gerolimenas
Santorini
Cyclades
Dodecanese
Islands
Rhodes
Kythira
SEA OF CRETE
Karpathos
MEDITERRANEAN
SEA
Iraklio
Crete
Kasos
Gavdos
0 100 km
0 60 miles

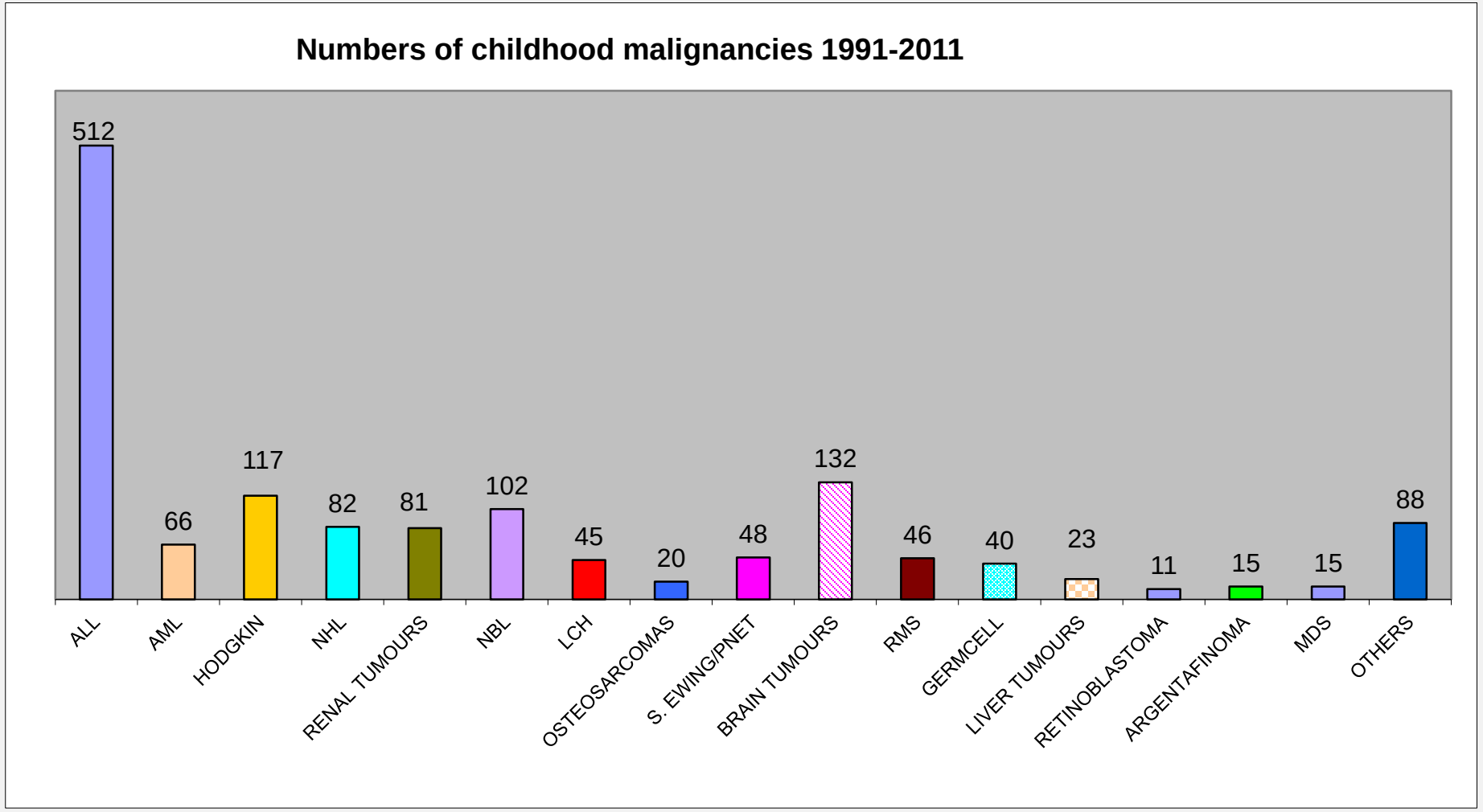

Polikastro
Kilkis
12
Skoutari
Nea Zihni
Stathmos Angistis
Dimitritsi
Nigrita
Nikoklia
Draviskos
Moustheni
Axiohori
Assiros
Sohos
Greece
E90
Pentalofos
Lagina
Langadas
Askos
Arethoussa
Pela
2
Thessaloniki
Anatoliko
Kalamaria
Nea Maditos
Zangliveri
Trikala
Stratoni
Perea
Vassilika
Arnea
Nea Mihaniona
Epanomi
Vaydos
Ierissos
Poligiros
Kitros
Nea Kalikratia
Nea Triglia
Katerini
Nea Moudania
Nikitas
1
Leptokaria
Neos Marmaras
Kassandria
Sikia
Platamonas
Kalandra


Photopress©Yannis Tsouflidis

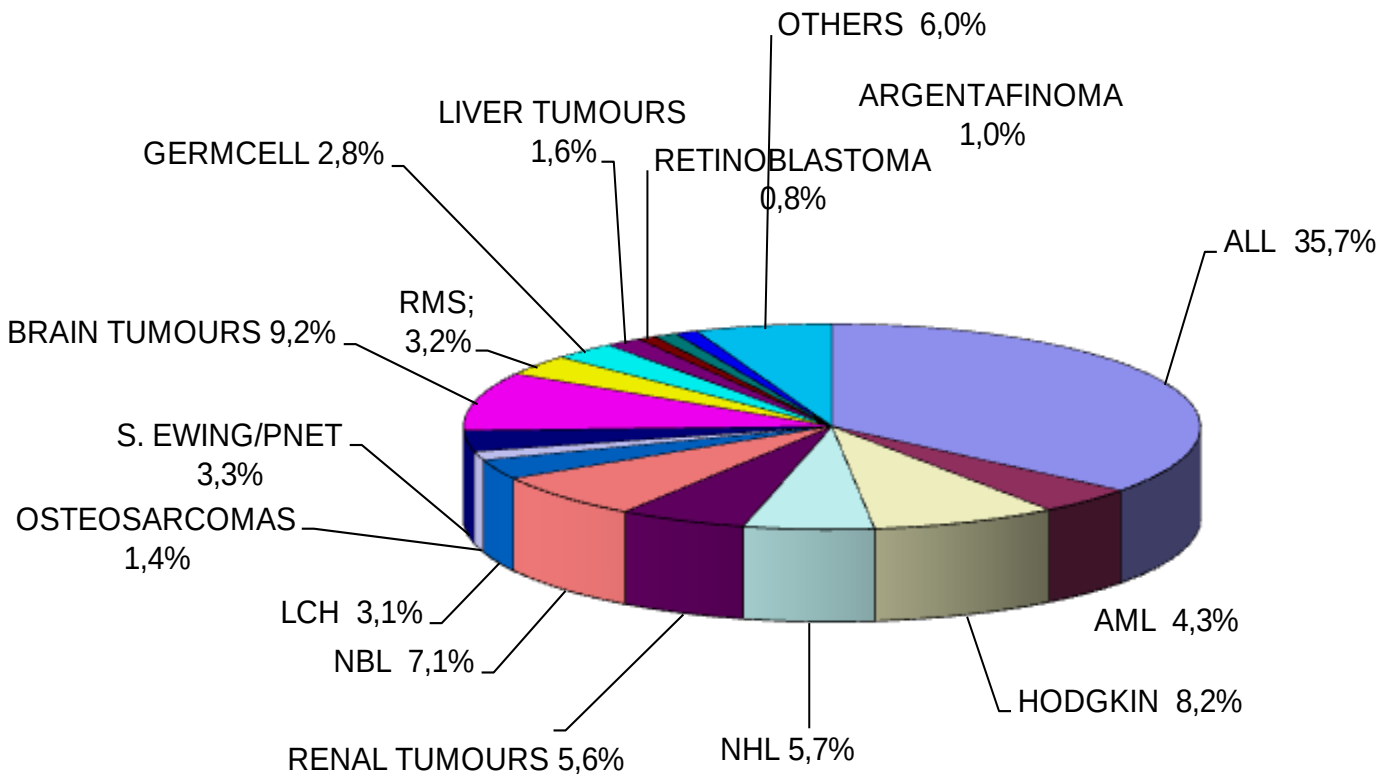

Photopress©Yannis Tsouflidis

CASES OF CHILDHOOD CANCER IN THESSALONIKI FROM 1990-2008




Numbers of childhood malignancies 1991-2011
512
66
117
82
81
102
45
20
48
132
46
40
23
11
15
15
88
ALL
AML
HODGKIN
NHL
RENAL TUMOURS
NBL
LCH
OSTEOSARCOMAS
S. EWING/PNET
BRAIN TUMOURS
RMS
GERMCELL
LIVER TUMOURS
RETINOBLASTOMA
ARGENTAFINOMA
MDS
OTHERS

Frequency of childhood malignancies 1991-2011



ALL (UKALL XI protocol)

98 children from 1993 to 2001 treated with UKALL XI protocol.

28 /98 (29,6%) relapsed, 19 boys and 9 girls (mean age 8yrs).
3-74 months (26) months from diagnosis, BM 15 , CNS 9 , testicular 2 ,
BM/CNS 2.
< 6 months from diagnosis 5 , >6 months to 6 after therapy 13, >6 months after therapy 10.

Received chemotherapy with BFM 90 and BFM 96 protocols.
2nd remission achieved in 24/28 (85,7%) children.
15/24 underwent allogeneic SCT
10/24 stay in remission for more than 5 years.

14 /24 second relapse, 2 of them are in 3rd remission for >3 yrs.
OS 83%, EFS 72%

AML

17 children, 8 boys and 9 girls , mean age 6,4 yrs.
1 AML M0, 5 M1, 7 M2, 2 M3 , 2 M5.

15 out of 17 received MRC, AML – 12 protocol (ADE X 2, MACE, MiDAC X2)
M3 AML patients received ATRA /anthracyclins
5 patients underwent SCT

10 / 17 alive for more than 3 years

IN TOTAL 66 PATIENTS
OS: 50%

ALL (ALL-BFM 95 protocol)

50 patients were treated from September 2001 to August 2005 according to the ALL – BFM 95 protocol, 24 boys and 26 girls, median age 6,5 years

standard risk group 12(24%), median 32(64%) and high risk 6(12%).
39/49 are in 1st CR from 1,5 to 5 yrs after therapy.
2 died from sepsis during induction/reinduction chemo,
7 relapsed (5 HR) 3 – 34 months from diagnosis.
4 underwent SCT.
3/7 remain in 2nd CR for >2 yrs from relapse.
OS 85%, EFS 79%

IN TOTAL 300 CHILDREN TREATED WITH BFM-95, BFM-2000 AND LAST 2 YEARS WITH ALLIC 2009

Hodgkin disease

From 1980-2005 74 children, aged 4-15 (median age 10.8), 50 boys and 24 girls.

49 (66%) of children were grouped in mixed cellularity subtype, 23 (31.5%) in nodular sclerosis subtype and 2 (2.5%) in lymphocytic depletion subtype.
Ann Arbor staging classification: 8 (10.8%) → stage I, 35 (47.3%) →II,
28 (37,8%) → III, 3 (4%) → IV.

All patients have been treated with chemotherapy (MOPP 14, MOPP ABVD 8,
CVIPP 27 and ABVD 25 children).

14 (19%) relapsed , chemotherapy as well as radiotherapy were applied, 6 patients underwent autologous SCT. OS 94.5% , EFS 89%.

IN TOTAL 117 PATIENTS, OS 94%
NOW EURONET PHL R COPP/COPDAC

Non Hodgkin Lymphomas

60 children with NHL , 34 B-cell NHL, 18 T-cell NHL, 8 Ki-1 ALCL.

B-NHL: 26 boys and 8 girls, mean age 6 yrs. Treated with 901, 902, 903 UKCCSG-NHL protocols. 4 underwent ASCT . OS (>3yrs) 85%.

T-NHL: 15 boys and 3 girls, mean age 7,5 yrs. Treated with MRC 904 protocol.
3 patients that relapsed underwent megatherapy/ASCT and 1 allogeneic SCT. OS: 78% (>4 yrs)

Ki-1 ALCL: 8 children (7 boys and 1 girl), with a mean age of 10,5 yrs.
Treated with HN97 (6) , NHL-BFM 90 (2), 1 plus local irradiation. All alive >3yrs

Total OS 83%, 50/60 children alive for more than 3 yrs.

IN TOTAL 85 CHILDREN

CNS TUMORS

<10%, 132 PATIENTS

??????????????????

Renal tumours

60 children, 25 boys and 35 girls, mean age 3,5 years.

53 (88,3%) Wilms tumour, 7 (11,66%) others (2 clear cell sarcoma,
2 carcinoma, 2 rabdoid tumour, 1 nephroblastomatosis.

WILMS patients: 19 (35,8%) stage I, 18 (33,96%) stage II,
9 (16,96%) stage III, 4 (7,55%) stage IV, and 3 (5,66%) stage V.
83% favorable histology

All surgical resection, 57 chemotherapy (UKW3), 18 radiotherapy.

OS >3 years 51/60 (85%), 46 (86,7%) Wilms

IN TOTAL 81 PATIENTS, SIOP WT 2001

NEUROBLASTOMA

- 102 patients, 9%
  - Gaglio…..
- Stage I ,II →95%
- Stage III →50%
- Stage IV →……
- Stage Ivs →100%
- **SIOPEN R-NET**

Rhabdomyosarcoma

25 children ,15 boys and 10 girls, with a mean age: 5,8 years.

Embryonal type 16/25 (64%), alveolar type 7/25 (28%), 2/25 (8%) undifferentiated

stage I 2/25 (8%), stage II 5/25 (20%), stage III 11/25 (44%), stage IV 7/25 (28%).

Surgical resection, chemotherapy (MMT 89/ MMT 95) and radiotherapy.

OS 60%, stage III 45,5%, stage IV 43%

IN TOTAL 46 children

Non RMS Soft tissue Sarcomas

12 children with NRSTS, 6 boys and 6 girls, mean age 5 years.
2 synobial sarcoma, 4 extraosseous Ewing, 2 fibrosarcoma, 1 haemoangiopericytoma, 1 liposarcoma, 1 malignant fibrous histiocytoma, and
1 chondrosarcoma.

surgical resection and/or chemotherapy (vinc+doxo+cyclo / ifos+etoposide)
and/or radiotherapy.

8/12 patients alive for more than 5 years .
4/12 died (1 fibrosarcoma, 1 extraosseous Ewing, 1 malignant fibrous histiocytoma, 1 chondrosarcoma)

OSTEOSARCOMA

20 patients

EURAMOS

OS 55%

Ewing Sarcoma

18 children with Ewing sarcoma, 9 boys and 9 girls aged 3-14 years (mean age 8 yrs).

All received chemotherapy with EICESS-92 protocol, 11/18 surgical resection, 9/18 irradiation.

10/18 alive for more than 3 years (OS 55,5%)

IN TOTAL 48 children
EURO EWING 99

Germ cell tumours

20 children , 12 girls and 8 boys, mean age 7 yrs.
7 yolk sac tumours, 2 dysgerminomas, 1 choriocarcinoma, 9 teratomas and 1 mixed.
(6 were extragonadal)
AFP raised in 11/20 (55%) children, β-HCG raised in 2 patients with choriocarcinoma/mixed.

Stage I → 4, II → 6, III → 5 , IV →5 children.
Stage I tumours treated with surgical resection.
Stage II or more → resection followed by chemotherapy (10 → JEB , 6 → VAC).
3 patients received irradiation.

Alive 16/20 children, 3,5 to 20 yrs from diagnosis (80%).

IN TOTAL 40 children

Liver tumors

18 hepatoblastoma, mean age of 2 years old.
4 stage I, 7 stage II, 5 stage III and 2 stage IV.
3 received cyclophosphamide and vicristine and 12 cisplatin and doxorubicin.
SIOPEL protocol
Full surgical removal of the tumour managed in 4/18 patients with stage I and 8/18 with stage II/III.
13 out of 18 patients survive free of disease 2 to 24 years after diagnosis.

5 hepatocellular carcinoma, mean age of 6 years ,
2 stage II, 1 stage III and 2 stage IV.
They all received chemotherapy with cisplatin and doxorubicin.
Full surgical excision managed in 4/5 patients.
Two patients survived, one of them after liver transplantation. The other 3 have died because of relapse and progress of the disease.

Carcinoid tumour of the appendix

19 children, 9 boys and 10 girls with a mean age of 10,5 year-old

In 18 out of 19 children the size of the tumor was less than 1cm in diameter, and did not infiltrate the surrounding tissues.
Staging of the disease included abdominal ultrasound, chest and abdominal CT, liver and spleen scan, Tc99 bone scan, urine 5-HIAA levels, and in 10 patients In111 Octreotide scan.

All children were free of metastatic disease and no further surgical or other therapeutic intervention was needed.
No patient relapsed for a period of 2-22 years from diagnosis.

Langerhans Cell Histiocytosis

27 children, 17 boys and 10 girls, mean age of 6 yrs (range 2mo-13yrs).

20 patients had single-system disease and 7 had multisystem disease .
9 pts had unique bone disease, 11 had multifocal bone disease.
Central diabetes insipidus was observed in 3 patients lymph nodes were involved in 6, middle ear and mastoids were involved in 3 and lungs were involved in 2 patients.

Treatment comprised chemotherapy in 17pts (DAL-HX-90, LCH-I, LCH-II, LCH-III), surgery in 5 pts, 2 pts received low dose irradiation, while 8 pts didn't take any therapy. 1 patient underwent (sibling) SCT.

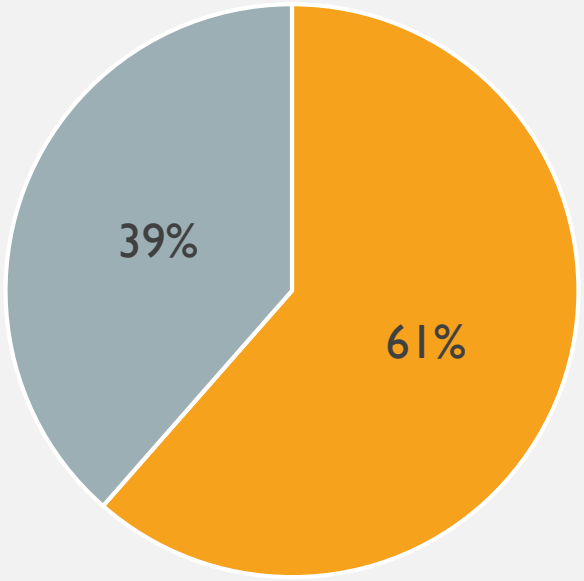
Relapse was observed in 7 pts. Five pts had 2-6 reactivations (3mo-4yrs from the diagnosis).
4 pts with multisystem disease and 1 with pulmonary LCH died.
25 patients are alive (86%) , 1 to 18 yrs from diagnosis.

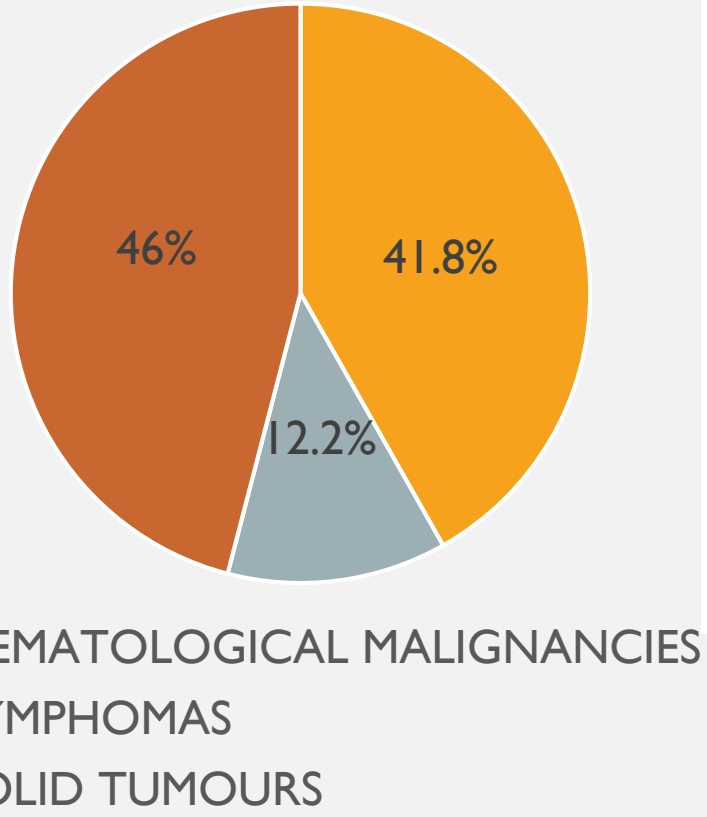
IN TOTAL 45 patients, LCH-III PROT

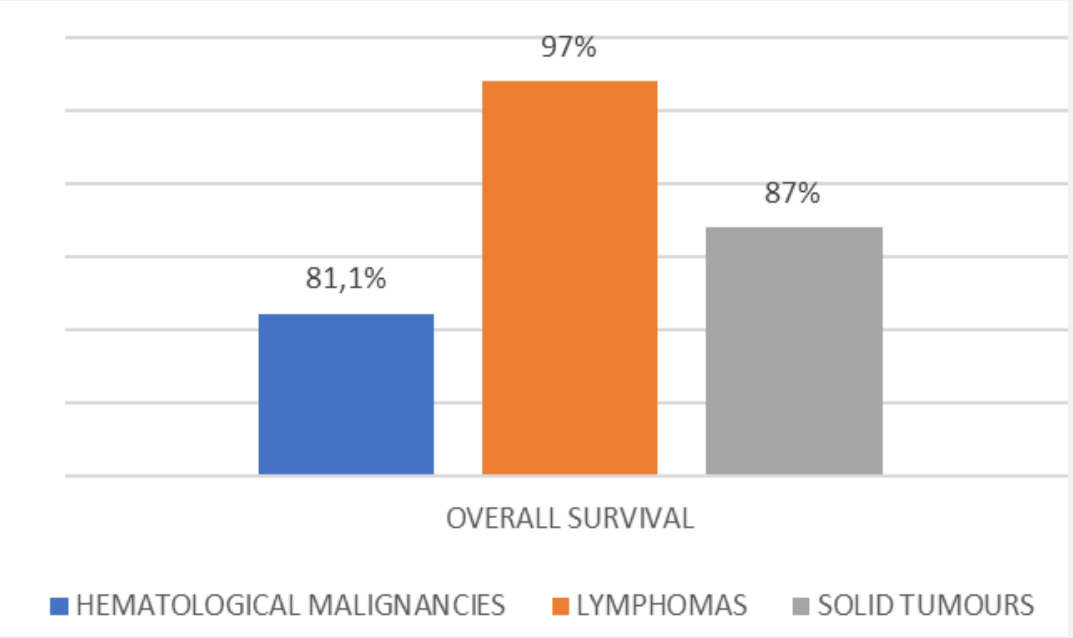
Children's & Adolescents Haematology/Oncology Unit,
2nd Paediatric Department of Aristotle University of Thessaloniki, School of Medicine,
AHEPA General University Hospital, Greece

From 2009 to 2023

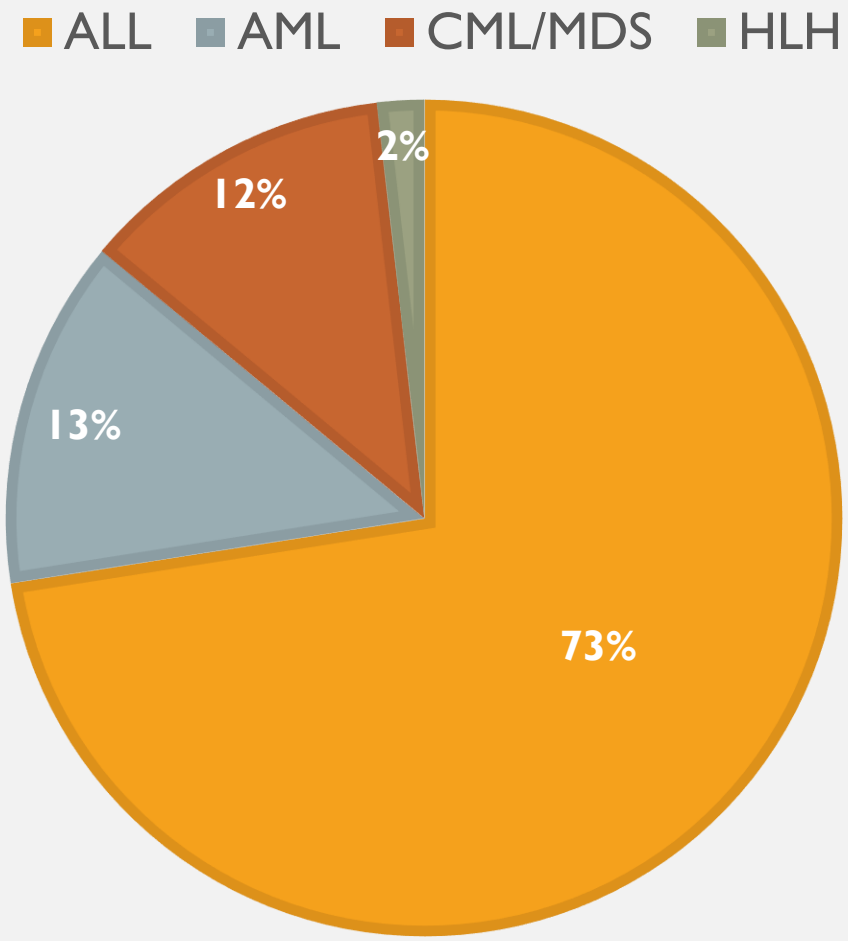
532 PATIENTS AGED 1-16 YEARS
APPROXIMATELY 35 NEW CASES PER YEAR

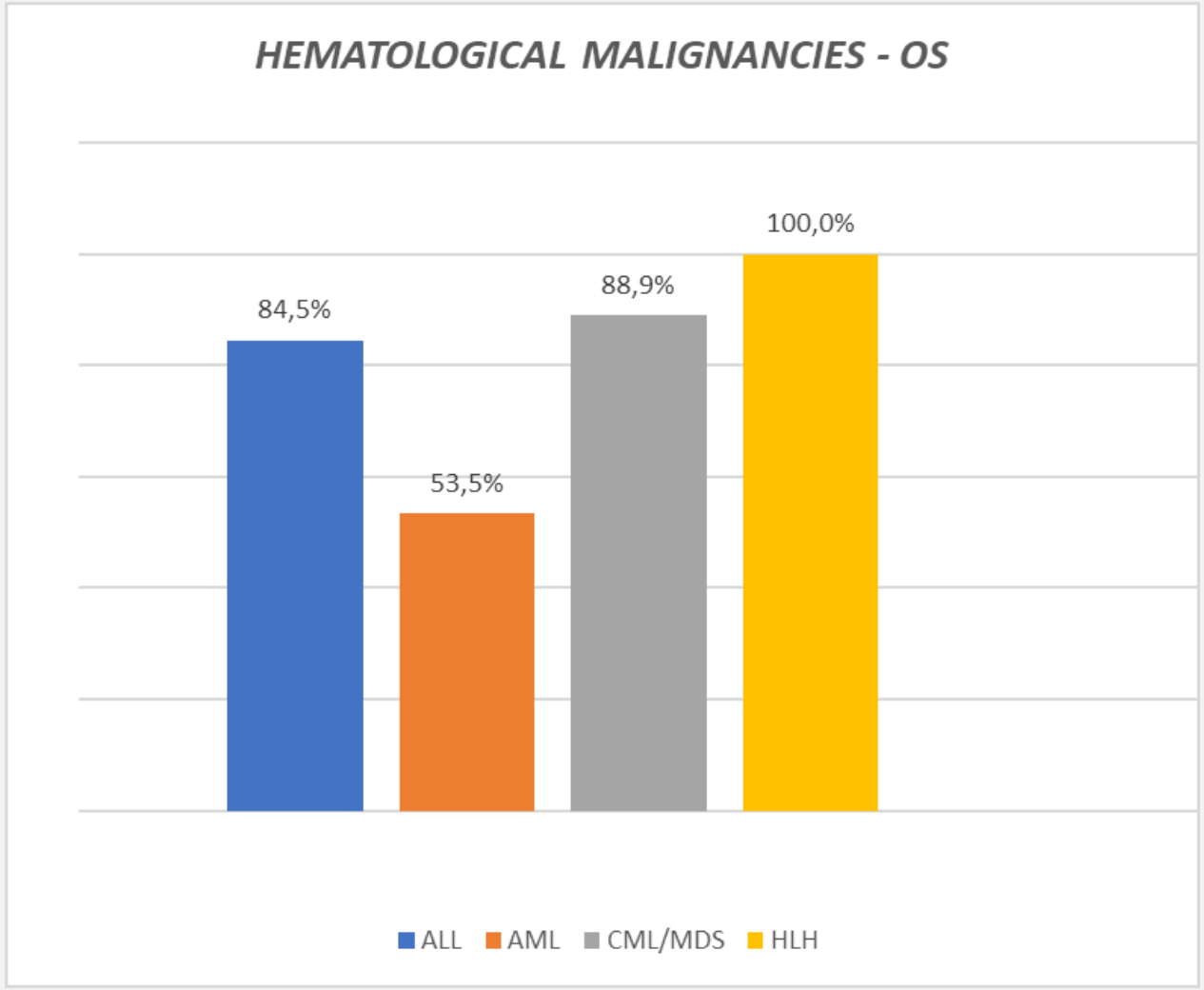


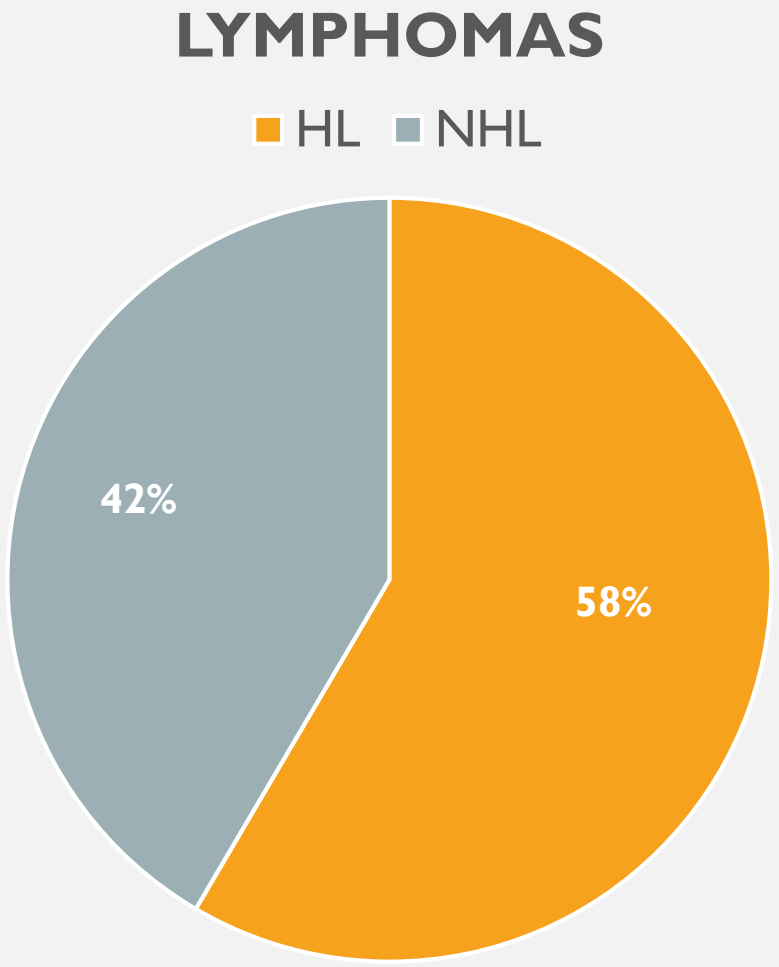


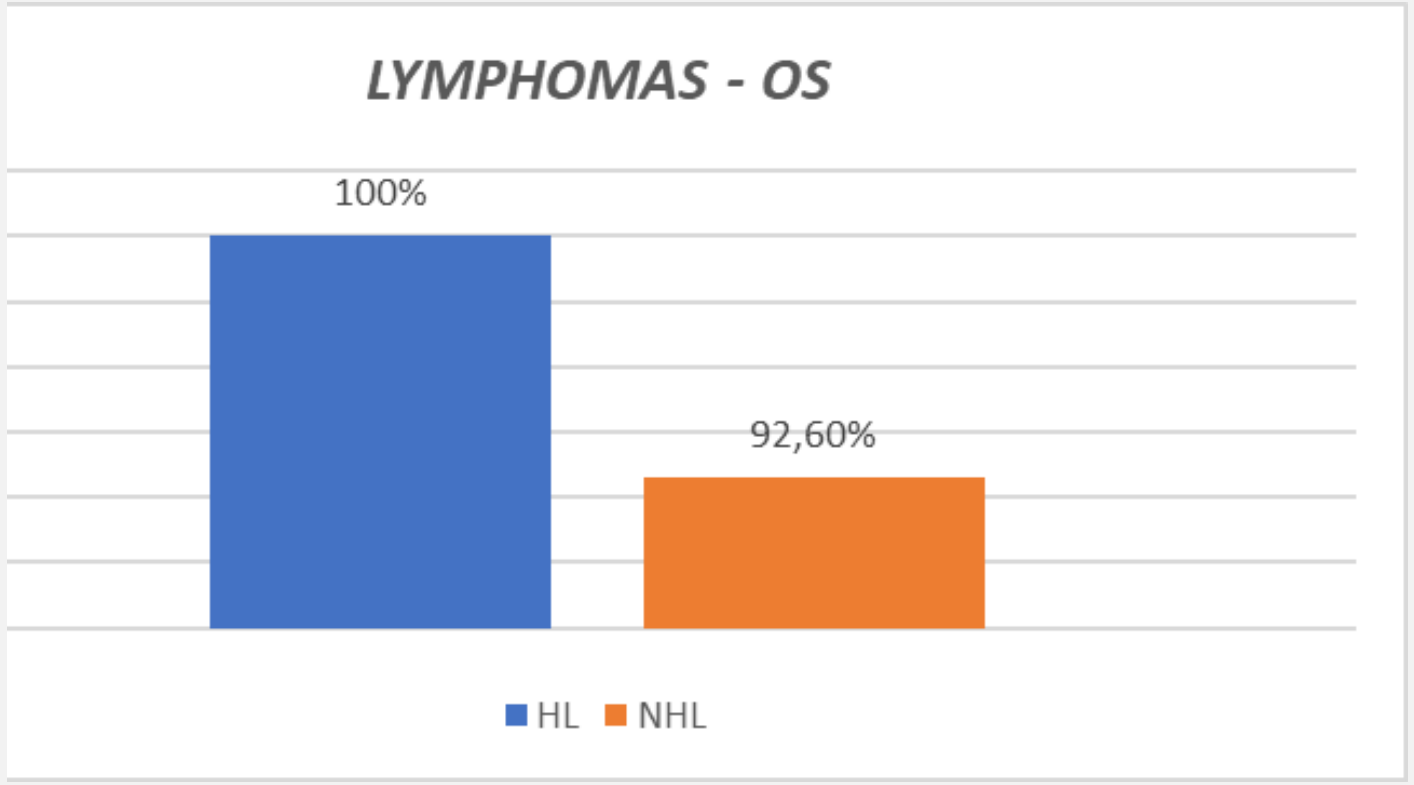


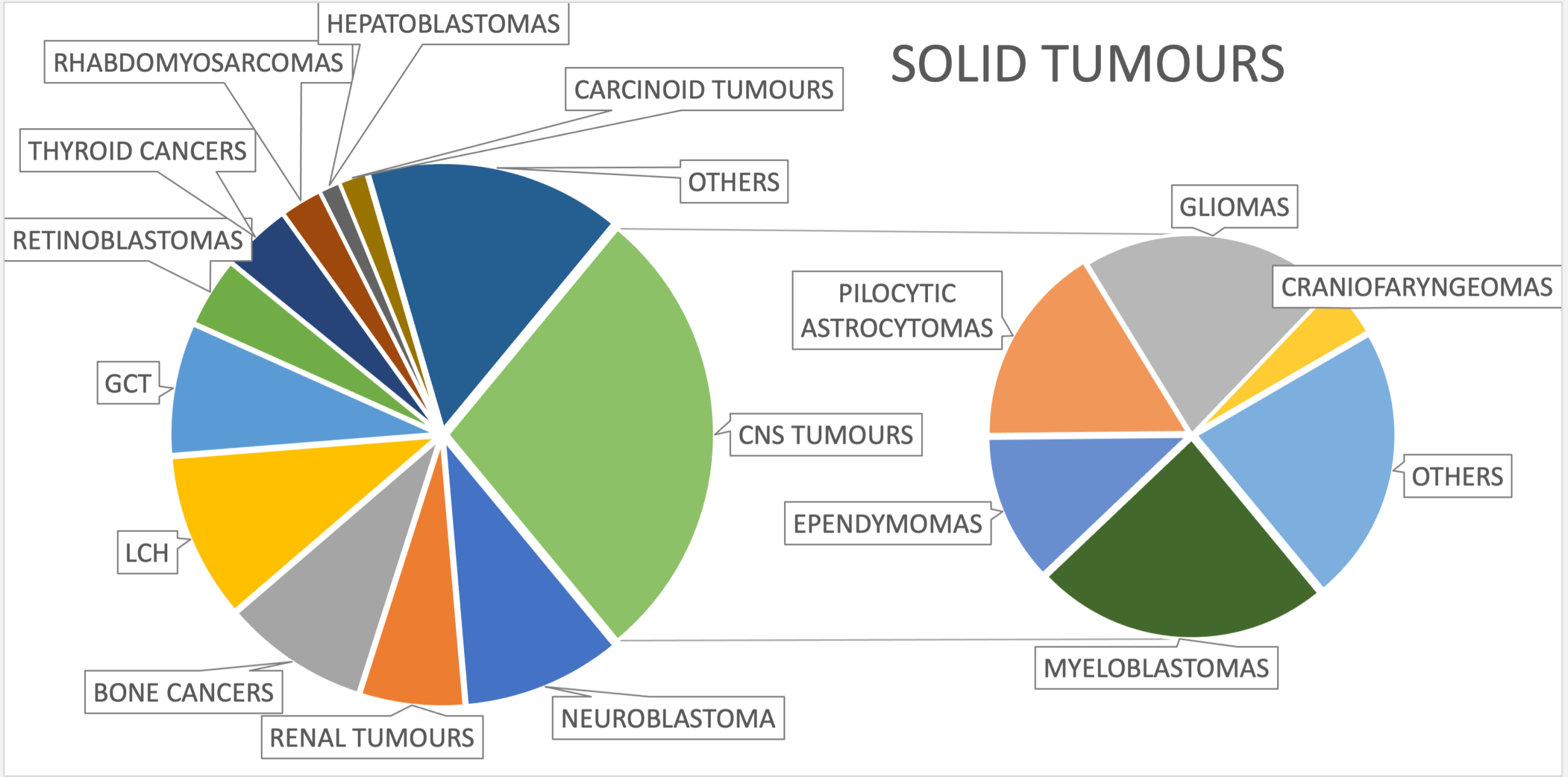
HEMATOLOGICAL MALIGNANCES



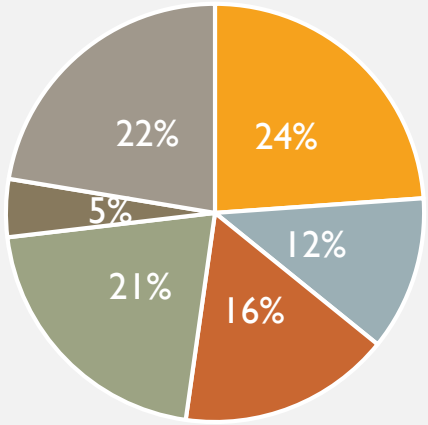



LYMPHOMAS
HL
NHL
42%
58%

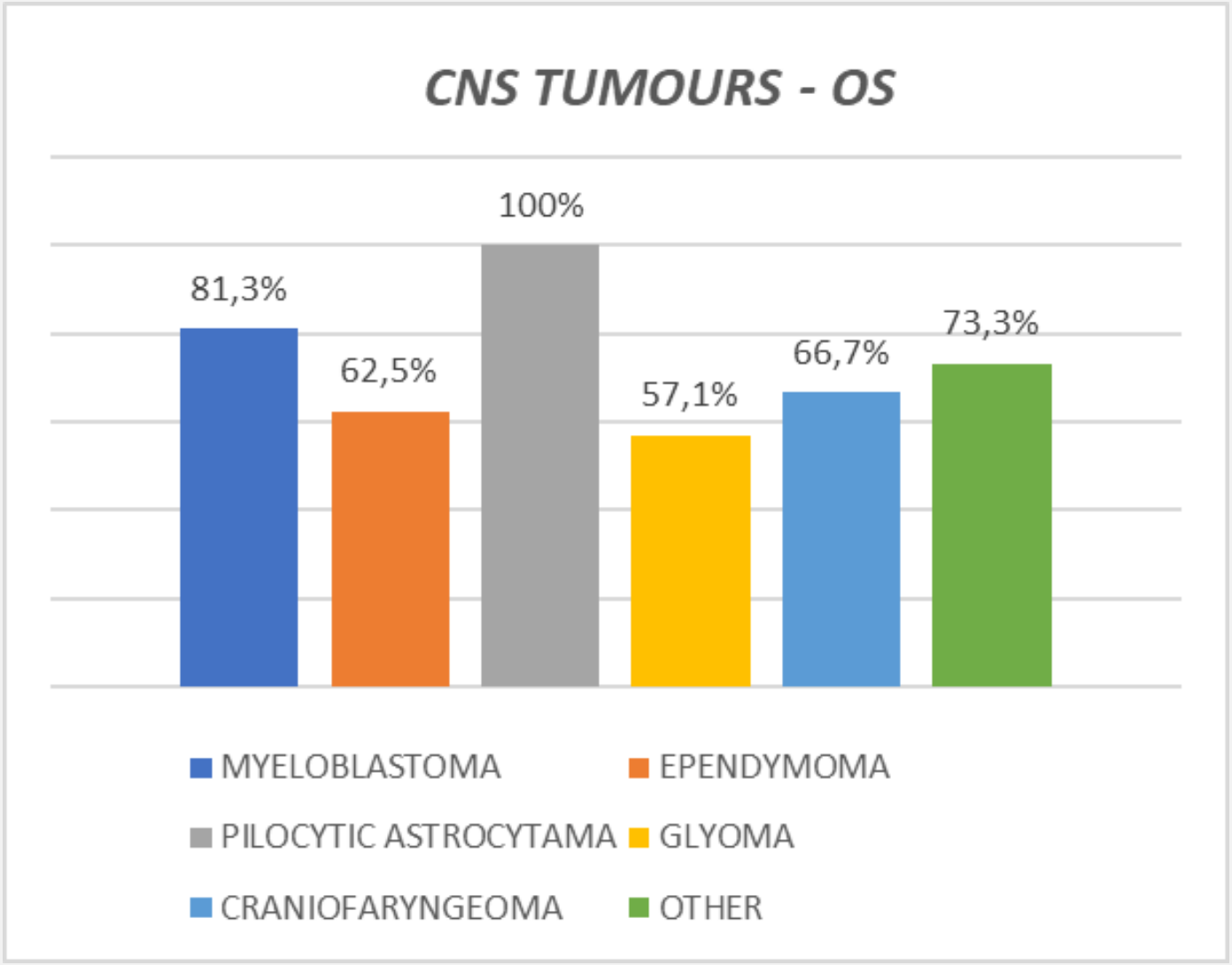

LYMPHOMAS - OS
100%
92,60%
HL
NHL


SOLID TUMOURS
HEPATOBLASTOMAS
RHABDOMYOSARCOMAS
CARCINOID TUMOURS
THYROID CANCERS
OTHERS
RETINOBLASTOMAS
GLIOMAS
PILOCYTIC ASTROCYTOMAS
CRANIOFARYNGEOMAS
GCT
CNS TUMOURS
OTHERS
EPENDYMOMAS
LCH
MYELOBLASTOMAS
BONE CANCERS
NEUROBLASTOMA
RENAL TUMOURS

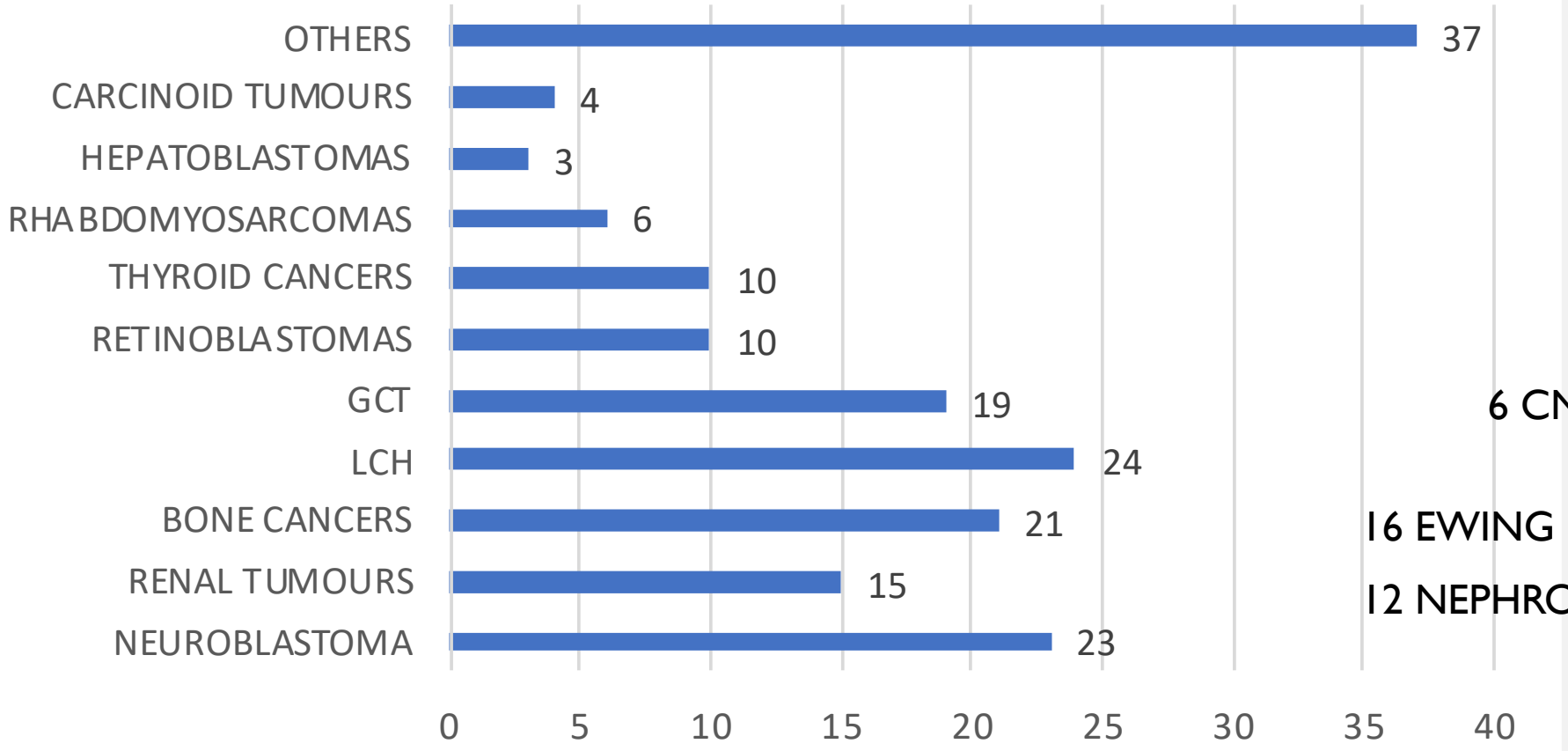
CNS TUMOURS



- MYELOBLASTOMAS
- EPENDYMOMAS
- PILOCYTIC ASTROCYTOMAS
- GLIOMAS
- CRANIOFARYNGEOMAS
- OTHERS



NON CNS SOLID TUMOURS

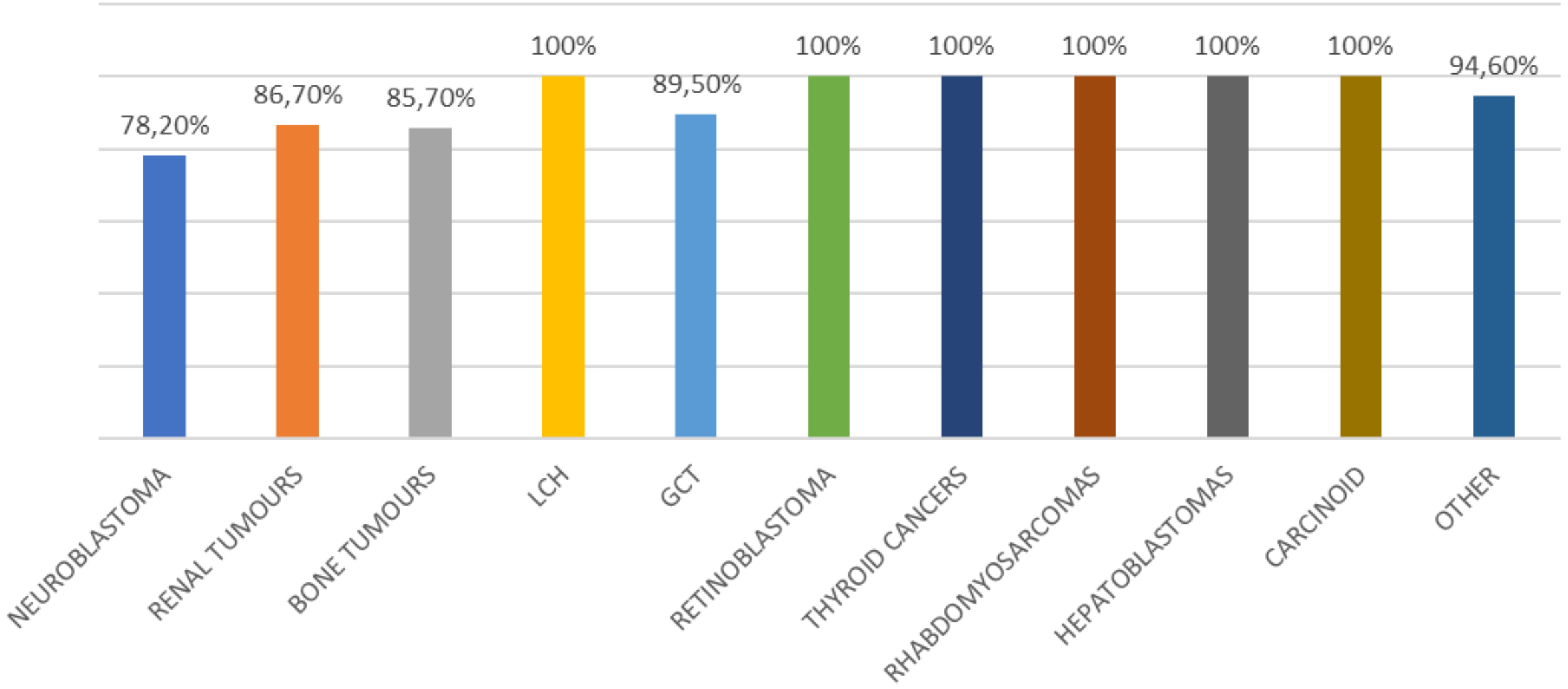


6 CNS/13 NON-CNS

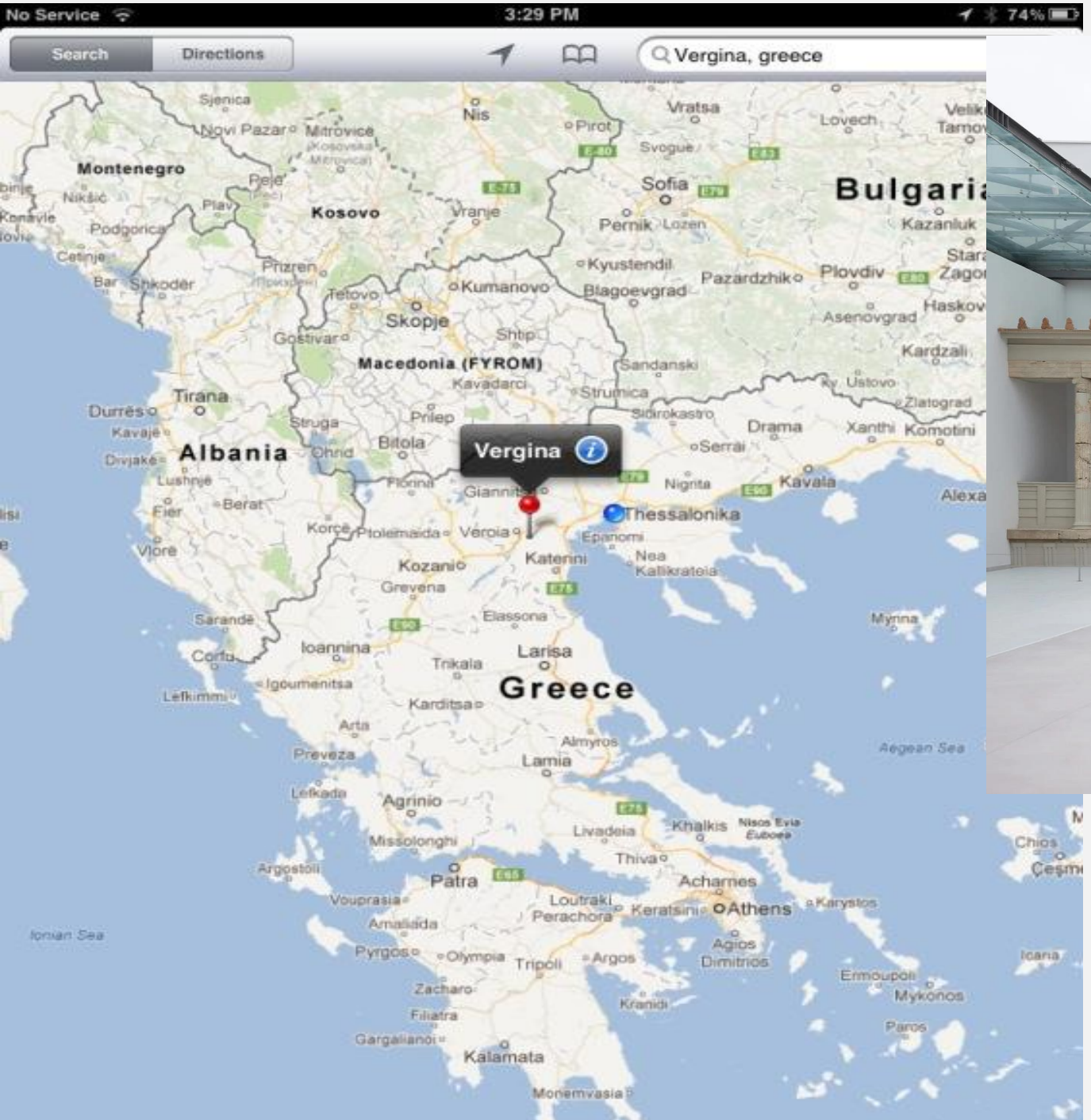
16 EWING (6-10)/ 5 OSTEOSARCOMAS

12 NEPHROBLASTOMAS/3 OTHERS

NON - CNS SOLID TUMOURS - OS



RADIATION THERAPY 25% OF PATIENTS (>85% OF CNS TUMORS)


No Service
3:29 PM
74%
Search
Directions
Vergina, greece
Vergina
Montenegro
Kosovo
Albania
Macedonia (FYROM)
Greece
Bulgaria
Thessalonika
Athens
Patra
Larisa
Ioannina
Kalamata
Aegean Sea
Ionian Sea


THANK YOU ALL!