

Neuroblastoma

-
-
-
-
-
-
-
-
-
-

(neuroblasts) (neuroblastoma)

(Neurons)
(central nervous system)
(peripheral nervous system)
(autonomic nervous system)

(sympathetic nervous system)
(parasympathetic)

(medulla)

(neuroblasts)
()

(opsoclonus)
(myoclonus)

(paraneoplastic syndromes)

programmed cell) ()

(apoptosis)

(death

(ganglioneuroma)

(ganglion)

(ganglioneuroblastoma)

(Risk factors)

(anticonvulsants)

(diuretics)

(folic acid)

()

(genes)
(deoxyribonucleic acid DNA)

(chromosomes)

Tumor suppressor) (Proto-oncogenes)
(genes)

()

(mutations)

:

(Translocation)

•

(inversion)

•

()

(addition)

•

(deletion)

•

(oncogene) ()
() ()
()

(deletion)

1

11

14

17

(superior vena cava syndrome)

()

)

(

(consumption coagulopathy)

(opsoclonus myoclonus ataxia syndrome)

(Computed tomography scan)

Magnetic resonance imaging)

(

(biopsy)

(technetium99) 99

(meta-iodobenzylguanidine MIBG scan)

(neurotransmitters)

(catecholamines)
(metabolites)

)

(

(Bone marrow biopsy)

.(

)

(Staging)

(grading)

(unfavorable histology)

(favorable histology)

(International Neuroblastoma Staging System INSS)

	:	
(Localized resectable)	:	1
	.	
(Localized unresectable)	:	2
	.	
	:	
()	:	2
	.	(
	:	2
	.	
	:	
(Regional)	:	3
	.	
	:	
(Disseminated)	:	4
	.	
4	.	
	:	
(4 S)	:	4
	.	
)	.	
(.	
)	.	
	.	
	:	
(.	

(Recurrent)

(prognostic factors)

:

18

:

:

(DNA ploidy)
(flow cytometry)
(diploid)
(hyperdiploid)
(hypodiploid)
(tetraploid)

:

(imaging cytometry)

: (Cytogenetics)

(chromosomes)

17

11

1

: (Oncogene amplifications)

(Proto-oncogenes)

(oncogenes)

(N-myc oncogene)

:

(ferritin)

(lactate dehydrogenase LDH)

(Neuron specific enolase NSE)

(Low risk)

:

(High Risk)

(Intermediate Risk)

:

:

: (Low risk)

1

•

() 2

•

() 2

•

() 2

•

4

•

(systemic)

(Neoadjuvant)

.(adjuvant)

:

(catheters)

.(Ommaya reservoir)

)

(

)

(

meta-)

(iodobenzylguanidine MIBG

.()

:

)

(

(Stem cells)

()

(

)

(Bone marrow transplant)

(Stem cells transplant)

(

)

(Autologous)
(Allogeneic)

(human leukocyte antigens HLA)

(peripheral stem cells)

()

(retinoids) ()
(differentiating agents)

(13-*cis*-retinoic acid) 13 ()

4

:

:

4

(doxorubicin)

(carboplatin)

(cyclophosphamide)
(etoposide)

:

24 12)

(

:

(13-cis retinoic acid) 13 ()

:

:

•

•

•

(Regional)

:

:

-
-
-
-
-

(Disseminated)

:

-
-

(4s) 4

(Recurrent)

(meta-iodobenzylguanidine MIBG)

(13-cis retinoic acid) 13 ()

) % 55 % 85
% 40
% 90 % 85
% 80 % 30
% 95
% 25
(

) (

:

- PDQ database. *Neuroblastoma*. Bethesda, Md: National Cancer Institute; 2006.
<http://www.cancer.gov/cancertopics/treatment/childhoodcancers>
- Matthey Katherine K. *Neuroblastoma: biology and therapy*. *Oncology* (Huntingt) 1997; Vol 11, No 12 :1857-66. Available at : <http://www.cancernetwork.com/display/article/10165/100618>
- Maris John M, Shusterman Suzanne. *Neuroblastoma*. In: Kufe DW, Pollock RE, Weichselbaum RR, Bast RC, Gansler TS Holland JF, Frei E, eds. *Cancer Medicine*. 6th ed. Hamilton, Ontario: B.C. Decker; 2003.
- Brodeur GM, Maris John M, *Neuroblastoma*. In: Pizzo PA, Poplack DG, eds. *Principles and Practice of Pediatric Oncology*. 4th ed. Philadelphia, Pa: Lippincott-Raven; 2002.
- Ebb DH, Green DM, Shamberger RC, Tarbell NJ. *Neuroblastoma*. In: DeVita VT Jr, Hellman S, Rosenberg SA, eds. *Cancer: Principles & Practice of Oncology*. 6th ed. Philadelphia, Pa: Lippincott-Raven; 2001.

آخر مراجعة : 25-06-2010

منشورات جمعية آدم لسرطان الطفولة

<http://www.adamcs.org>