

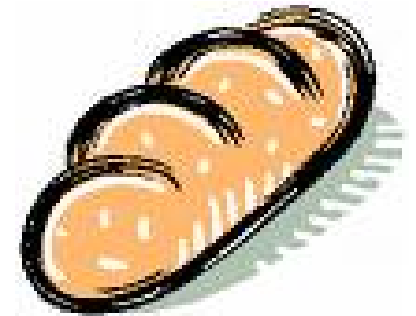


NBCNS

network for research
in NB and CNS tumors
in children



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Before
diagnosis

Diagnosis

Treatment

Follow up/
rehabili-
tation

Before diagnosis

- environmental factors
- genetic predisposition
- tumor development

- symptoms/signs

environmental risk factors

”The Nordic Childhood
Brain tumor Study”

Gene-polymorphisms
related to environmental
factors including mobile
telephones



environmental riskfactors



tumor development initiation-progression

- Genetic events
- Epigenetic events
- Genetic instability

- Angiogenesis
- Growth factors
- Apoptosis
- Cancer stemcells

Before
diagnosis

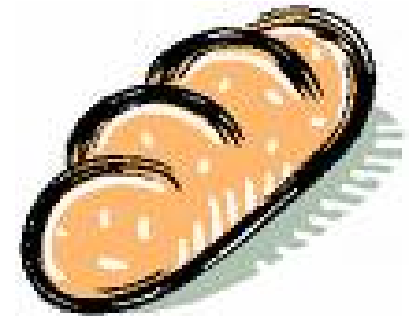
the future?

- Prevention
- Screening
- Vaccination

- Early diagnosis= improved outcome?
- Cancer switch?
- Angiogenic switch?
- Metastatic switch?



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Before
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Diagnosis

- diagnostic tools MRI, PET-CT
- prognostic markers - risk grouping-therapeutic targets
- biobanking
- registration
- information/support

Biological prognostic markers

Neuroblastoma

- MYCN –ampl.
- 17q+
- Structural aberrations
- TRK A mRNA expr

CNS tumors (Mb)

- β -catenin (IHC)
- C-myc mRNAexpr
- TRK C mRNAexpr

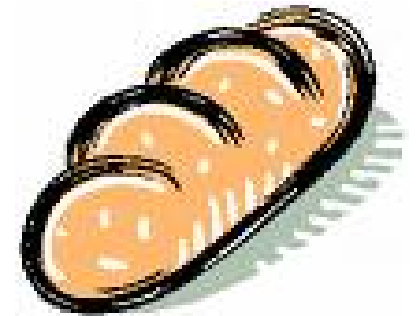
the future?

Diagnosis

- Tumor heterogeneity
- Genetic profiling of individual tumors
- Non-invasive investigations
- Bioinformatics



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Treatment

- Surgery, radiotherapy, chemotherapy immunotherapy
- New agents
- pharmacokinetics/ drug delivery
- toxicity
- supportive therapy
- clinical multicenter studies

New agents

Tyrosine kinase inhibition

Histone deacetylation/DNA methylators

Growth factor inhibition

Angiogenesis inhibition

Vitamins

New agents/methods

- Proton radiotherapy
- IMRT

- Radiotherapy quality assurance



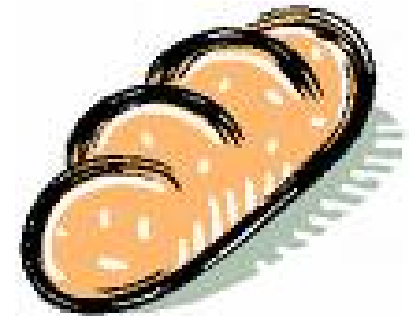
Treatment

the future?

- Targeted therapy
- New methods of drug delivery
- In vitro drug testing
- Reliable surrogate markers
- Individual toxicity profile



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Before
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Follow up/
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Follow up-rehabilitation

- follow up data collection
- school/ work adaptation
- maintain/regain function
- coping
- achieving independence

- patient education

Follow-up/ rehabili- tation

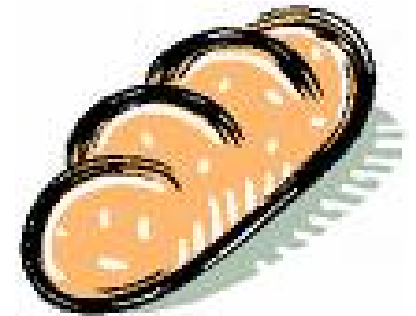
the future?

- radiotherapy sequele
- "chemobrain"
- prevention of brain damage

- coping



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Before
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Diagnosis

Treatment

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rehabili-
tation