

# **BRAIN TUMORS 101**

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## **WHAT IS A BRAIN TUMOR**

- Growth inside the skull
- Cells lose signal to stop dividing. Like CD
- Many different types 120
- Benign, low grade, cancer or malignant
- Some genetic, some spontaneous, some environmental, some combination of these
- Environmental causes

## BENIGN BRAIN TUMORS

- MENINGIOMAS
- ACOUSTIC NEUROMAS
- PITUITARY TUMORS
  
- WE CAN CURE MOST WITH SURGERY

## LOW GRADE TUMORS

- PRE-CANCEROUS
- LOW GRADE GLIOMAS
  
- CAN BECOME CANCEROUS

## MALIGNANT BRAIN TUMORS

- GLIOBLASTOMA
- ANAPLASTIC ASTROCYTOMA
- EPENDYOMAS
- METASTATIC BRAIN TUMORS
  - LUNG
  - BREAST
  - MELANOMA
  - COLON
- NEED COMBINATION THERAPY

## TREATMENTS

- SURGERY
- RADIATION THERAPY
- CHEMOTHERAPY
- IMMUNE THERAPY
- COMPLEMENTARY MEDICINE

## SURGERY

- BIOPSY –FRAMELESS OR FRAME
- CRANIOTOMY
  - AWAKE
  - MOTOR STRIP MAPPING
  - FRAMELESS MRI GUIDED
  - INTRAOP MRI
- NEED TO GET ALL TUMOR OUT

## RADIATION THERAPY

- STANDARD
- RADIOSURGERY
  - SRT
  - SRS
    - GAMMA KNIFE
    - XKNIFE
    - CYBERKNIFE
    - PROTON BEAM
    - ALL THE SAME

## CHEMOTHERAPY

- TEMODAR
- AVASTIN
- PROBLEM OF THE BLOOD BRAIN BARRIER
- SELECTIVE BBB OPENING
- TARGETED NANODRUGS
- PERSONALIZED THERAPY

## IMMUNOTHERAPY

- BRAIN CANCER VACCINES

## CANCER STEM CELL

- 2% TO 3 % OF CELLS IN TUMOR
- SUPPLY OF NEW CANCER CELLS

## IMAGING

- CT SCANS
- MRI SCANS
  - MRI SPECT
  - FUNCTIONAL MRI
- PET SCANS

## YOUR TEAM

- NEUROSURGEON
- NEUROLOGIST
- NEURO-ONCOLOGIST
- MEDICAL ONCOLOGIST
- RADIATION ONCOLOGIST
- NEURO-RADIOLOGIST
- NEURO-PATHOLOGIST

## CLINICAL TRIALS

- ONLY 5% OF MALIGNANT TUMORS
- PHASE I
- PHASE II
- PHASE III
- FDA APPROVED
- RESEARCH NURSE
- PLEASE SPEAK TO YOUR DOCTOR ABOUT CLINICAL TRIALS

## COMPREHENSIVE CENTERS

- ONLY A SMALL PERCENT OF NEUROSURGEONS SPECIALIZE IN BRAIN TUMORS
- OUTCOME BETTER IN COMPREHENSIVE CENTERS

## Brain Tumor Quality Data

In-Patient Hospital Averages	Cedars-Sinai Brain Tumor 2006 (N = 164)	National Average 2006	Cedars-Sinai Brain Tumor 2007 (N = 164)	National Average 2007
For patients undergoing <b>brain tumor resection</b> , the median <b>mortality rate</b> was:	0.00%	1.52%	0.06%	1.57%
For patients undergoing <b>brain tumor resection</b> , the median <b>length of stay</b> following surgery was:	5.7	5.4	4.8	5.1

## Brain Tumor Quality Data

<b>Brain Tumor Survival Rate</b>			
	<b>Cedars-Sinai Brain Tumor 2002-2006</b>	<b>State of California Average</b>	<b>National Average</b>
One Year Survival:	75.9%	49.8%	46.6%
Two Year Survival:	61.1%	31.7%	29.3%
Three Year Survival:	55.9%	26.4%	24.4%
Four Year Survival:	51.4%	23.5%	21.8%
Five Year Survival:	50.1%	21.7%	19.8%

THANK YOU

- PLEASE ENJOY THE CONFERENCE