neurosurgery.theclinics.com

Diffusion tensor imaging tractography, 497, 500–501 Direct cortical stimulation, for language mapping,

501-503

Index

Note: Page numbers of article titles are in **boldface** type.

A	Cancer stem cells, 392, 395–396
AC133 antigen, 392, 395. See also CD133.	Carmustine, 431, 510
ACTIVATE (A Complementary Trial of an	CD133, 391–405
Immunotherapy Vaccine Against Tumor-specific	as stem cell marker, 392–394
EGFRvIIII), 463	discovery of, 392
Active immunotherapy, 362, 462-463	gene for, 392
Adnectins, 435	glioma cells without, 394–398
Adoptive immunotherapy, 361-362, 460-462,	in angiogenesis, 398–399
482–486	studies of, limitations of, 395
AEE788 (small molecule inhibitor), 408	subpopulations of, 395–398
Aflibercept, 434–435	therapeutic potential of, 400–401
AG490 monoclonal antibody, 384	Cediranib, 410, 435
5-Aminolevulinic acid, for fluorescence imaging, in	CENTRIC study, 412
resection, 371–377, 441	Cetuximab, 383, 487
Angiogenesis	Chemotherapy bevacizumab effects on, 422
bevacizumab effects on, 418-423	for pediatric patients, 519–520
CD133 in, 398–399	•
inhibitors of, 432-435	immunosuppressive effects of, 359
STAT3 effects on, 382	myeloablative, 520
Angiopoietin, bevacizumab and, 422–423	nanoparticles for, 443–444
Antibody-mediated immunotherapy, 486-490	quality of life considerations on, 510–511 resection with, 498
Aphasia, postoperative, 503-504	small molecule inhibitors for, 407–416
Apoptosis, 358–359	Chimeric antigen receptors, 486
Autologous tumor cells, 462, 483	Chlorotoxin, in nanoparticles, 441
Avastin. See Bevacizumab.	Cilgenitide, 412
	Ciliary neurotrophic factor, STAT3 effects on, 382
В	Cobalt ferrites, 442
BCNU, 431, 520	Cognitive impairment, quality of life with, 509–510
Bevacizumab, 410, 412, 417–427, 488–490	Computed tomography, for pediatric gliomas, 517
adverse reaction to, 422–423	Convection-enhanced delivery, of nanoparticles, 449
as radiosensitizer, 434–435	Cortical stimulation, for language mapping,
chemotherapy and, 422	501–503
controversy over, 418	Corticosteroids, immunosuppressive effects of, 359
for recurrent glioma, 418	Cytokines
molecular mechanisms of, 418–421	for immunotherapy, 359–360, 463–465
radiotherapy and, 422	pathogenicity of, 358–359
resistance to, 422–423	Cytotoxic enhancement, in radiosensitization, 430
surgery and, 421–422	Cytotoxic T cells, 361, 460–462, 483–486
B7-H1, pathogenicity of, 358	.,
Biologic cooperation, in radiosensitization, 430, 431	D
Biopsy, 499–500	
Bortezomib, 412	Dartmouth, aminolevulinic acid studies of, 373–376
Brachytherapy, nanoparticles for, 443	Dasatinib, 409, 435
Brain, language mapping in, 497–506	Delta-Notch pathway, bevacizumab and, 422–423
	Dendritic cells, 362, 462–463
	Dextran, in nanoparticles, 441

Neurosurg Clin N Am 23 (2012) 525–528 http://dx.doi.org/10.1016/S1042-3680(12)00063-0 1042-3680/12/\$ – see front matter © 2012 Elsevier Inc. All rights reserved.

C

Cabozontinib, 435

Camptothecin, 431, 442

Direct subcortical stimulation, for language mapping, 502–503	High-grade gliomas
DNA replication, inhibitors of, 431–433	in pediatric patients, 515–523 isocitrate dehydrogenase-1 defects in, 471–480
Doxorubicin, 433	language mapping for, 497–506
Draining lymph nodes, cytotoxic T cells from, 461	pathophysiology of, 358–359
Dynamic model, of CD133 cells, 396-397	standard of care for, 459
•	treatment of
E	bevacizumab for. See Bevacizumab.
E	CD133-related, 391-405
Edotecarin, 411	endogenous vaults for, 451-458
EGFRvIIII protein, 463, 487, 520	immunotherapy for, 357–370, 459–470,
Electrical stimulation, for language mapping,	481–495
501–503	nanotechnology for, 439–449
Eloquent brain regions, language mapping in, 497–506	quality of life with, 507–513 radiosensitizers for, 429–437
Encephalopathy, radiation-induced, 509–510	small-molecular inhibitors for, 407–416
Endogenous vaults, 451–458	STAT3 inhibitors for, 379–389
Endothelial cells, tumor-derived, 398–399	surgical. See Surgery.
Enzastaurin, 411	versus low-grade gliomas, 515
Epidermal growth factor receptor	Histone deacetylases inhibitors, 412
in pediatric patients, 516	Hospice care, 511–512
in vaccine preparation, 362	Human leukocyte antigens, defects of, 358
inhibitors of, 408–409, 435	Human lung resistance protein (untranslated vault
Erlotinib, 383, 408–410	RNA), 452–454
Etoposide, 411, 520	Hyperthermia, nanoparticles for, 441-442
European Organization for Research and Treatment	
of Cancer, radiosensitizer studies of, 429-435	1
Evirolimus, 411	ı
	IDHs. See Isocitrate dehydrogenases.
F	Imatinib, 408–410, 520
	Immunomodulation, 463–465
F3 peptide, in nanoparticles, 441	Immunotherapy, 357–370, 459–470
Fas ligand, pathogenicity of, 358	active, 362, 462–463
Ferrites, in nanoparticles, 442 Fluorescence imaging, with aminolevulinic acid, in	adoptive, 361–362, 460–462, 482–486 antibody-mediated, 486–490
resection, 371–377	challenges in, 465
Fullerene magnetic nanotubes, 441, 443	cytokines in, 359–360
Tullerene magnetic nariotabes, 441, 440	immunomodulation, 463–465
	multimodality, 362–363
G	passive, 360–362, 481–495
Gadolinium, in nanoparticles, 441	pathologic basis of, 358–359
Galectin, pathogenicity of, 358	serotherapy, 360–361
Gefitinib, 383, 408, 521	strategies of, 359
Gene therapy, nanoparticles for, 442-443	Integrin inhibitors, 412
German multi-institutional trial, 372-374	Interferons, therapeutic, 359, 463-464
Glimatecan, 411	Interleukins, therapeutic, 359-361, 463-464
Glioblastoma multiforme, CD133 and, 391-405	Intracellular signaling, inhibitors of, 410-412
Gliomas, high-grade. See High-grade gliomas.	Intracranial hemorrhage, bevacizumab and, 423
Gliomatosis cerebri, 518	Irinotecan, 411-412, 487, 489-490
Gold nanoparticles, 443	Isocitrate dehydrogenases, 471-480
	function of, 471–472
н	mutations of, 472–477
	detection of, 475–476
Healing, bevacizumab effects on, 423	genetic characteristics of, 474–475
Heat shock proteins, in vaccine preparation, 362	in non-gliomas, 476–477
Hemorrhage, intracranial, bevacizumab and, 423	prognosis and, 475
Hierarchical model, of CD133 cells, 396	putative role of, 473-474

putative role of, 473-474

J	Nimotuzumab, 490
Janus tyrosine kinases, STAT3 activation and, 382–384	Nitric oxide, endothelium-derived, 399 Nitrogen mustards, 431
JSI-124 monoclonal antibody, 384	Normal tissue, protection of, in radiosensitization, 431
V	0
K	Oxygen free radicals, augmentation of, 433-434
Karenitecin, 411	70
	Р
L	p53 mutations, 516
Language mapping, 497–506	Paclitaxel, 433, 442
anatomic considerations in, 499–500	Panitumumab, 383
imaging for, 499–501	Passive immunotherapy, 360–362, 481–495
intraoperative, 501–503	adoptive, 361–362, 460–462, 482–486
negative, 502 postoperative goals of, 503–504	antibody-mediated, 486–490
Lapatinib, 383, 408	categories of, 481–482
Lenalidomide, 434	Pazopanib, 409 Pediatric patients, gliomas in, 515–523
Lithium ferrites, 442	clinical features of, 516–517
Lomustine, for pediatric patients, 519	epidemiology of, 515–516
Lymphocyte-activated killer cells, 361, 460, 482-483	imaging of, 517–518
	in genetic syndromes, 520–521
M	molecular features of, 516
Magnetic nanoparticles, 440–444	outcome of, 520
Magnetic resonance imaging	pathology in, 516-518
for pediatric gliomas, 517–518	risk factors for, 515–516
functional, 500	treatment of, 518–520
nanoparticles in, 440-441	Perifosine, 411 Phosphoinositide 3-kinase, inhibitors of, 411
quality of life predictions from, 508	Phototherapy, gold nanoparticle, 443
Major vault protein, 452–455	Physical disability, quality of life with, 509–511
Manganese ferrites, 442	Platelet-derived growth factor receptor
Methotrexate, 521	bevacizumab effects on, 423
Microglia, defects of, 358 Microtubule stabilizers and destabilizers, 432–433	inhibitors of, 409-410
Monoclonal antibodies. See also specific antibodies.	PLX4032, 520
radiolabeled, 490	Protein kinase C, inhibitors of, 411
unlabeled, 486–490	Pseudomonas exotoxin, 359–360
Motexafin gadolinium, 433–434	Pyrazoloacridine, 411
Multimodality immunotherapy, 362–363	Q
Myeloablative chemotherapy, 520	
	Quality of life, 507–513
N	chemotherapy considerations on, 510–511
Nanoparticles, 439–449	evaluation metrics for, 508 hospice care and, 511–512
chemotherapeutic, 442	multimodal molecular approach to, 512
delivery of, 443-444	radiological considerations on, 508
for brachytherapy, 443	radiotherapy considerations on, 509-510
gene delivery with, 442–443	surgical considerations on, 508-509
gold, 443	
magnetic, 440–444 types of, 440	R
vault, 451–458	Radiosensitizers, 429–437
Nanoshells, gold, 443	angiogenesis inhibitors, 432–435
Negative language mapping, 502	classification of, 430–431
Neuropsychological testing, for language function, 503	DNA replication inhibitors, 431–433
Nickel ferrites, 442	microtubule stabilizers and destabilizers, 432–433

Radiosensitizers (continued)	TALL-104 cells, 361
redox stress augmenters, 432-434	Tandutinib, 409
signal pathway inhibitors, 432, 435	Telomerase-associated protein, 452-454
Radiotherapy	Temozolomide, 408-409, 431, 490, 498, 510, 519
bevacizumab effects on, 422	Temporal modulation, in radiosensitization, 431
for pediatric patients, 518-519	Temsirolimus, 411
monoclonal antibodies for, 490	Tenascin, monoclonal antibodies to, 490
quality of life considerations on, 509-510	Thalidomide derivatives, 434
Ras signaling	Thermotherapy, nanoparticles for, 441-442
in pediatric patients, 516	Thiotepa, 520
inhibitors of, 410–411	Thromboembolism, bevacizumab and, 423
Recurrent glioblastoma, bevacizumab for, 418	Tipifarnib, 410–411
Redox stress, augmentation of, 432–434	Tirapazamine, 433
Resection. See Surgery.	Topoisomerase inhibitors, 411–412, 431–433
Rubitecan, 411	Topotecan, 411
	Transforming growth factor-β, 486
S	Tumor-derived endothelial cells, 398–399
Serotherapy, 360–361	Tumor-infiltrating lymphocytes, 361, 460–461, 483
Signal pathways, inhibitors of, 432, 435	Tyrosine kinases
Signal transducers and activators of transcription.	inhibitors of, 435
See STAT3 transcription factor.	•
•	STAT3 activation and, 382–384
Sirolimus, 411	
Small molecule inhibitors, 407–416	U
definition of, 408	Ubiquitin-proteasome complex inhibitors, 412
historical review of, 407–408	Ultrasmall superparamagnetic iron oxide-based
of epidermal-derived growth factor receptor,	nanoparticles, 440
408–409	Untranslated vault RNA, 452–454
of intracellular signaling, 410–412	ondaniated valid in vit, 102 101
of platelet-derived growth factor receptor, 409-410	V
of vascular endothelial growth factor receptor, 410	V
Sorafenib, 383–384, 408, 411	Vaccine(s), 362, 460-463
Spatial cooperation, in radiosensitization, 430	Vaccine for Intra-Cranial Tumor (VICTOR) study, 463
STAT3 transcription factor, 379–389	Vandetanib, 435
actions of, 379	Vascular endothelial growth factor
in oncogenesis, 380–383	bevacizumab effects on, 419-423
inhibitors of, 383–384	inhibitors of, 434–435
signaling pathway of, 379	STAT3 effects on, 382
Stattic, 384	Vascular endothelial growth factor receptor,
Stem cells	inhibitors of, 410
cancer, 392, 395-396	Vatalanib, 410
niche for, 399	Vault(s), endogenous, 451–458
tracking of, nanoparticles for, 441	Vault nanoparticles, 451–458
Sunitinib, 408	Vault poly (ADP) ribose polymerase, 452–453
Superparamagnetic iron oxide-based nanoparticles,	Venous thromboembolism, bevacizumab and, 423
440	Verubulin, 433
Surgery	VICTOR (Vaccine for Intra-Cranial Tumor), 463
bevacizumab effects on, 421-422	Vinca alkaloids, 433
for pediatric patients, 518	Vincristine, for pediatric patients, 519
language mapping before, 497–506	Vorinostat, 412
quality of life considerations on, 508–509	Volillostat, 412
Surveillance, Epidemiology and End Results	
database, 430	X
	XL765, 520
Т	33, 323
T cells	
dysfunction of, 358–359	Υ
STAT3 effects on, 380–381	YB1 protein, 516
2 0 0110010 011, 000 001	p. c.c, c. c