Author Index

Adler, J.R. 155
Ang, K.K. 145
Chang, S.D. 155
Cianci, P. 98
Cox, J.D. 85
Gill, H. 120
Gordon, K.B. 127
Ha, C.S. 85
Hancock, E.W. 71
Hancock, S.L. 71
Hopewell, J.W. 9
McBride, W.H. 1
Million, R.R. 21
O’Brien, J.M. 127
Parsons, J.T. 21
Rich, T.A. 110
Silverman, S., Jr. 34
Stewart, J.R. 71
Terris, D.J. 49
Thomas, C.R., Jr. 63
Turrisi, A.T., III 63
Williams, T.E. 63
Withers, H.R. 1
Yao, M. 49
Subject Index

Acute response
- radiation injury 1, 49, 50
- radiosurgery 156, 157

Alopecia, radiosurgery complications
157, 158

Angiotensin-converting enzyme inhibitors,
- postradiation recovery therapy 7

Apoptosis, modulation in radiation therapy
5

Bladder, see Urinary tract, radiation injury

Candidiasis, radiation association and
management 41

Cataracts, radiation dose response and
management 22, 23, 135, 136

Central nervous system, radiation injury
- animal studies 145, 146, 149, 150
- clinical features
  - cognitive impairment 146, 147
  - focal cerebral necrosis 147, 148
  - overview 145
  - radiation myelopathy 148
- diagnosis and pathology of late
  neurological deficits 148, 149
- prevention
  - age of patient and dose 152
  - interfraction intervals 150, 151
  - radiosensitization by chemotherapy
    152
  - treatment planning 149, 150
  - treatment volume minimization 151

Chronic response, radiation 49, 50

Cochlear nerve, radiosurgery complications
161

Computed tomography
- conformal radiotherapy planning 67, 68
- edema 159

Conjunctiva, injection 130

Consequential response, radiation 1

Coronary artery disease, radiation injury
- prevention 81, 82
- risk factors 79-81

Cytokine induction, radiation 6, 7

Dental caries, radiation association 38, 39

Dermatitis, management 50, 51

Desferrioxamine, prophylaxis of radiation
injury 12, 13

Dose
- escalation with modulators 19
- per fraction, radiation response 2

Dry-eye syndrome, features and
management 23, 24, 132, 133, 135

Edema, radiosurgery complications
156, 158-160

Eicosapentaenoic acid, prophylaxis of
radiation injury 15, 16

Erectile dysfunction, radiation injury
124, 125

Eye, radiation injury
- cataracts, dose response and management
  22, 23, 135, 136
Eye, radiation injury (continued)
conjunctiva injection 130
dry-eye syndrome 23, 24, 132, 133, 135
eyelids
clinical syndromes 22, 127, 129
treatment 127
fornix contraction, surgical management
131, 132
lacrimal duct injury
clinical syndromes 132, 133
overview 22, 132
fornix contraction, surgical management
131, 132
lacrimal duct injury
clinical syndromes 132, 133
overview 22, 132
treatment 133, 135
optic nerve injury
clinical presentation 139
dose response 28, 30, 160
management 30, 139
neuropathy types 27, 28
sensitization by chemotherapy 29
orbit injury
clinical syndromes 141, 142
treatment 142
prevention 21, 31, 32
retinopathy
dose response 26
features 25, 26, 136–138
management 27, 138
sclera injury 130, 132
Fatigue, radiation side effect and
mechanisms 7
Fistula, radiation injury and management
57, 58
5-Fluorouracil
leucovorin combination therapy 115, 116
radiosensitization for gastrointestinal
tract cancer treatment
chemoradiation as accelerated
treatment
anal cancer 114, 115
esophageal cancer 114
head and neck cancer 113, 114
overview 113
circadian timing of administration
116, 117
metastatic colorectal cancer treatment
112
overview 110
protracted venous infusion of drug
110–112
treatment planning 117
Fornix contraction, surgical management
131, 132
Granulocyte colony-stimulating factor,
prophylaxis of radiation injury 10
Granulocyte-macrophage colony-
stimulating factor, prophylaxis of
radiation injury 10
Heart, radiation injury
conducting abnormality 83
coronary artery disease
prevention 81, 82
risk factors 79–81
overview 71, 72
pericardial injury
clinical manifestations 75, 76, 78, 79
dose response 73, 74
Hodgkin’s disease patients 73–75
prevention 74, 75
treatment 79
pleural effusion 83
tachycardia 83
valve defects 82, 83
Hemorrhagic cystitis
clinical features 120, 121
prevention 121
treatment 121–123
Hodgkin’s disease
chemotherapy 86, 88, 89, 92, 93, 95
laparotomy in staging and
recommendations 86–88, 94
mortality 85
radiation therapy
combination with chemotherapy
92, 93
guidelines 85, 86, 90–92, 95
pericardial radiation injury and
prevention 73–75
recurrent disease 93, 94
Hydrocephalus, radiosurgery complications
157, 162
Hyperbaric oxygen
children, therapy 105
claustrophobia of patients 101
diseases for therapy 98, 101–105
fibroblast response 99
mechanism of action 99
osteoradionecrosis treatment 54, 55, 102, 103
overview 98
toxicity and side effects 100
vasoconstriction 99
white cell killing enhancement 99

Incontinence, radiation injury 123, 124

Kidney, radiation tolerance 4

Lacrimal duct injury
clinical syndromes 132, 133
overview 22, 132
treatment 133, 135
Late response
radiation injury 1, 8, 10, 11
radiosurgery 158–163
γ-Linolenic acid, prophylaxis of radiation injury 13–16

Lung, radiation injury
acinus loss 65, 66
conformal therapy in prevention 67, 68
local control and prognosis 66, 67
pneumonitis 6, 64, 68
pulmonary fibrosis 64, 65
reactive cell proliferation 65
tolerance 63, 64
transforming growth factor-β role in injury 64, 68

Magnetic resonance imaging
conformal radiotherapy planning 67, 68
edema 159

Mouth, radiation injury
candidiasis 41
dental caries 38, 39
dental treatment planning 46–48
mucositis 34, 35, 50
nutritional management 38
salivary function 37, 51
soft tissue necrosis 45, 46
taste loss 35, 36

Mucositis, features and management 34, 35, 50

Nausea, radiosurgery complications 156

Optic nerve, radiation injury
clinical presentation 139
dose response 28, 30, 160
management 30, 139
neuropathy types 27, 28
sensitization by chemotherapy 29

Orbit, radiation injury
clinical syndromes 141, 142
treatment 142

Osteoradionecrosis, head and neck
diagnosis 53, 54
incidence 42
pathophysiology 52
reconstructive surgery 55, 56
recovery 41
risk factors 44, 45, 52
treatment 41, 42, 45, 54, 55, 102, 103

Penicillamine, prophylaxis of radiation injury 11

Pentoxifylline
palliative treatment 17
prophylaxis of radiation injury 12

Pericardial injury
clinical manifestations 75, 76, 78, 79
Hodgkin disease patients 73–75
prevention 74, 75
radiation dose response 73, 74
treatment 79

Pituitary hormones, radiosurgery complications 163

Pleural effusion, radiation injury 83

Pneumonitis, see Lung, radiation injury

Pulmonary fibrosis, see Lung, radiation injury

Radiosurgery
acute complications
edema 156
fever 157
nausea 156
neurologic deterioration 156

Subject Index

169
Radiosurgery, acute complications (continued)
- pin site pain and headaches 157
- seizures 156, 157
- early delayed sequelae
- alopecia 157, 158
- hydrocephalus 157
- indications and overview 155
- late delayed complications
- cochlear nerve 161
- edema 158–160
- hydrocephalus 162
- lesion enlargement 162
- necrosis 158–160
- optical nerve 160
- pituitary hormone abnormalities 163
- prevention of cranial nerve injury 161, 162
- seizures 162, 163
- trigeminal neuropathy 160, 161
- Regeneration, tissues following radiation 2
- Remembered dose, late responding tissue recovery from radiation injury 3, 4
- Retinopathy
- features 25, 26, 136–138
- management 27, 138
- radiation dose response 26
- Salivary function, see Xerostomia
- Sclera, radiation injury 130, 132
- Seizure, radiosurgery complications 156, 157, 162, 163
- Single photon emission computed tomography
- conformal radiotherapy planning 67, 68
- necrosis imaging 159
- Soft tissue necrosis
- head and neck radiation 45, 46, 58, 59, 61
- hyperbaric oxygen therapy 98, 101, 103, 104
- Steroids, postradiation recovery therapy 7
- Superoxide dismutase, liposome injection and fibrotic tissue blocking 17, 18
- Tachycardia, radiation injury 83
- Taste loss, radiation injury 35, 36
- Tolerance
- functional subunits 4
- genetic variability 5
- volume effects 4, 5
- Transforming growth factor-β, role in lung injury 64, 68
- Trigeminal neuropathy, radiosurgery complications 160, 161
- Ureteral stricture, radiation injury 125
- Urinary tract, radiation injury
- early vs late complications 120
- erectile dysfunction 124, 125
- hemorrhagic cystitis
- clinical features 120, 121
- prevention 121
- treatment 121–123
- incontinence 123, 124
- ureteral stricture 125
- Vascular injury, radiation 2
- Wound healing, radiation effects 5, 6
- Xerostomia, radiation injury and management 37, 51