

Index

A

- Adenoma malignum, 51–53, 114, 115
- Adjuvant brachytherapy, 188
- Adjuvant chemoradiotherapy, 186–188
- Adjuvant chemotherapy, 187, 196, 207, 208, 215, 225, 249–250
- Adjuvant hormonal therapy, 250
- Adjuvant pelvic external beam radiotherapy, 185–186
- Adjuvant pelvic radiation, 205, 215, 236, 249
- Adjuvant radiotherapy, 185, 205, 208
- Advanced endometrial cancer
 - bevacizumab, 240, 241, 263, 266
 - carboplatin, 224–228, 240–242, 263, 266
 - combination chemotherapy and radiation therapy, 226, 227, 239, 240, 242, 243
 - current Gynecologic Oncology Group trials, 239, 240
 - FIGO staging system, 29, 120, 236, 238
 - intraperitoneal chronic phosphate, 238
 - positive cytology, 239
 - postoperative radiation therapy, 196, 239
 - radiation therapy, 238–240, 243
 - risk factor, 238, 239
 - survival rates, 223
 - treatment (*see* Chemotherapy; Combined treatment modalities)
- American College of Obstetrician Gynecologists (ACOG) guidelines, 15
- Anovulation, 14, 153
- Anthracyclines, 225, 226, 228, 252
- ARID1A* gene alterations, 86, 87, 92–93, 95, 98, 128

B

- β -catenin, 55, 66, 91, 96, 128, 131
- Bcl-2 gene, 63, 126, 129
- Bevacizumab, 187, 228, 229, 240, 241, 252, 263, 266
- Biologic therapy, 253
- Bokhman classification, 48, 49, 55

C

- Carboplatin, 187, 205–210, 216, 217, 224–228, 240–242, 263, 266
- Carcinosarcomas
 - cytogenetic abnormalities, 95
 - molecular abnormalities, 95

- C-Erb-B2 (HER-2/Neu), 125
- Cervical involvement, 108, 118–119, 178
- Chemoprevention, 8
- Chemoradiation therapy, 187, 196, 208, 210, 216, 239
- Chemotherapy
 - carcinosarcomas, 226, 228
 - chemohormonal therapy, 242–243
 - combination chemotherapy, 206, 215, 216, 225–227, 239, 240, 242, 243
 - combined radiation therapy and, 239–241
 - for metastatic/recurrent disease, 225–226
 - novel therapeutic agents, 228–229
 - radiation for early-stage disease, 224–225
 - single-agent chemotherapy, 226
 - systemic therapy, 224
 - targeted therapies, 229
- Chemotherapy backbone, 226
- Ciliated carcinoma, 54
- Cisplatin, 186, 187, 208, 212, 215–217, 224–228, 237, 239, 240, 242, 250, 252
- Clear cell carcinoma
 - epidemiology, 56–57, 209
 - gross features, 57
 - histologic features, 57
 - immunophenotype, 57–58
 - natural history, 209
 - prognosis, 116–117
 - subtypes, 57
 - treatment, 210 (*see also* Uterine carcinosarcomas; Uterine serous carcinoma)
- Clostridium perfringens* toxin (CPE), 266
- Combination chemohormonal therapy, 242–243
- Combination hormonal therapy, 241–242
- Combination-type oral contraceptives (COCs), 2, 3, 6, 8, 9
- Combined treatment modalities
 - combination chemohormonal therapy, 242–243
 - combination hormonal therapy, 241–242
 - phase I and II trials, chemotherapy and radiation therapy, 239, 240
- Complex atypical hyperplasia (CAH), 153–154, 156–159, 162, 163
- Cowden's disease, 15, 89, 127
- CTNNB1* mutations, 86, 90–92, 95, 96, 98
- Cytogenetic abnormalities

Cytogenetic abnormalities (*cont.*)

- carcinosarcomas, 95
- endometrial carcinoma, 94–95
- high-grade endometrial stromal sarcoma, 97
- leiomyosarcoma, 96
- low-grade endometrial stromal sarcoma, 97

Cytoplasmic mislocalization, 265

Cytoreductive surgery, 225, 237

D

Depot medroxyprogesterone acetate (DMPA), 7, 8

Diabetes, 14, 163, 164, 172, 248

Diagnosis, 17

- CT scan, 17, 18, 155, 194, 212, 249
- endometrial biopsy, 16–18, 20, 26, 154, 155, 157, 164, 202
- HPV testing, 17
- office hysteroscopy, 17
- office Pipelle biopsy, 17
- palpation, 16, 122, 123, 173
- Pap smears, 16, 17
- pelvic MRI, 17, 18
- PET CT scan, 17, 18, 34–39
- physical examination, 16–18, 20, 164, 172
- rectovaginal examination, 16
- transvaginal ultrasound finding, 17–20, 26, 28–30, 156
- ultrasound-guided dilation, 18

DNA MMR genes, 87, 260

Doxorubicin, 186, 187, 206, 208, 213–216, 224–228, 240, 242, 249–252

E

Early-stage endometrial cancer

- adjuvant brachytherapy, 188
- adjuvant chemoradiotherapy, 186–188
- adjuvant pelvic external beam radiotherapy, 185–186
- adjuvant radiotherapy, 185, 205, 208
- classification system, 171
- conservative management, 184–185
- external beam radiotherapy to the pelvis whole pelvic RT (WPRT)
 - 3D-conformal radiation therapy, 192–193, 195
 - intensity modulated radiation therapy, 193–195
- high-intermediate risk, 184, 187
- high risk, 184, 195, 209
- intermediate risk, 184, 188
- low risk, 184
- radiotherapy
 - external beam radiotherapy to the pelvis, 188–189, 192–195
 - high dose rate brachytherapy (*see* High dose rate brachytherapy)
 - vaginal brachytherapy, 186, 188–191, 195, 196
- surgical therapy
 - intraoperative management, 172–173
 - laparoscopic surgery, 176–177
 - lymph node (*see* Lymph node evaluation)
 - obese patient, 178
 - physical examination, 172

routine staging, 173

stage II disease, 177–178

Endometrial cancer

ASTRO recommendations for the role of postoperative radiation therapy, 196

complex atypical hyperplasia, 153–154

early-stage (*see* Early-stage endometrial cancer)

epidemiology

genetic disorders, 153

infertility, 153

menstrual irregularity, 153

obesity, 152–153

postmenopausal women, 152–153

premenopausal women, 152

primary hormonal therapy (*see* Hormonal therapy)

staging

GOG study, 154

myometrial invasion, 155–156

preoperative tumor grade, 155

Endometrial carcinoma

cytogenetic abnormalities, 94–95

molecular abnormalities

ARID1A gene alterations, 92–93

DNA mismatch repair deficiency, 87–89

leiomyosarcoma, 95

low-grade endometrial stromal sarcoma, 96

mutated genes, 86

phosphoinositide 3-Kinase (PI3K)/Akt pathway, 89–91

POLE mutations, 86–87

RAS-RAF-MEK-ERK signaling pathway, 92

TP53 gene alterations, 93–94

Wnt signaling pathway, 91–92

prognostic factors (*see* Prognosis, EC)

uterine sarcomas

leiomyosarcoma (*see* Leiomyosarcomas)low-grade endometrial stromal (*see* low-grade endometrial stromal)

Endometrial intraepithelial carcinoma, 56, 86, 94, 115

Endometrial stromal sarcoma (ESS)

high-grade, 49, 66–67, 97

low-grade (*see* Low-grade endometrial stromal sarcoma)

prognosis, EC, 130

uterine sarcomas, 248–249

Endometrioid adenocarcinomas

ciliated carcinoma, 54

clear cell carcinoma, 56–58

differential diagnosis, 52–54

gross features, 49

histologic features

CHEC pattern, 51

cytoplasmic clearing, 49, 51

endometrioid cytology, 51

endometrioid growth patterns, 50

fused and branched glands, 49, 50

keratinizing squamous metaplasia/morular metaplasia, 50

low-grade cytologic appearance, 49, 50

- luminal surfaces, 49
 - MELF pattern, 52
 - solid growth, 49, 51
- immunophenotype of, 54–55
- mixed (mixed epithelial) carcinomas, 58
- mucinous differentiation, 54
- secretory carcinoma, 54
- serous carcinomas (*see* Serous carcinomas)
- small cell carcinoma, 58
- squamous cell carcinoma, 58
- transitional cell carcinoma, 58
- undifferentiated carcinomas, 58–59
- villoglandular carcinoma, 54
- Epidemiology**
 - age-specific incidence rates, 2–3
 - BMI, 4
 - chemoprevention, 8
 - cigarette smoking, 8
 - combination-type oral contraceptives, 6
 - DMPA, 7
 - endometrial mitotic rate, 3–4
 - estradiol, plasma concentrations, 3
 - LNG-IUS, 7
 - menopausal estrogen–progestin therapy, 5–6
 - menopausal estrogen therapy, 2, 4–5
 - non-hormonal intrauterine devices, 7–8
 - parity, 6
 - progestins, plasma concentrations, 3–4
 - risk factors, 2
 - SHBG levels, 4
- Epidemiology of Endometrial Cancer Consortium (E2C2)**, 7
- Epidermal growth factor receptor (EGFR), 95, 262, 263
- Epithelioid leiomyosarcoma, 61–63
- ER-β-ER-α ratio, 124
- Estrogen and progesterone receptors, 54, 124–125
- Estrogen-dependent endometrial carcinogenesis, 49
- Estrogen-secreting ovarian tumors, 14
- European Organization for Research and Treatment Center (EORTC), 186, 187, 224, 227, 249
- External beam radiotherapy
 - to pelvis, 188–189
 - to pelvis whole pelvic RT (WPRT)
 - 3D-CRT, 192–193
 - IMRT, 193–195
- Extrafascial hysterectomy, 177
- F**
- FBXW7/Cyclin E/PPP2RA1, 264
- Fertility preservation, 159, 160
- 18-2-fluorodeoxy-2-deoxy-D-glucose (18-FDG)-PET CT, 35
 - in cancer detection, 36
 - for cancer staging, 36–38
 - imaging technique, 35–36
- Four-field pelvic box technique, 192
- G**
- Gemcitabine, 250–252
- H**
- Hereditary nonpolyposis colon cancer (HNPCC), 14, 15, 128
- HER2/neu (ErbB-2), 202, 203, 260, 262–263
- High dose rate brachytherapy
 - vs.* LDR, 190
 - multichannel vaginal applicator, 191–192
 - treatment principles, 192
 - vaginal cylinders, 190–191
- High-grade endometrial stromal sarcoma, 49, 53, 64, 66–67, 73, 97, 98, 117
- Hormonal therapy, EC
 - future perspectives, 163–164
 - prospective study, 158–159
 - retrospective study
 - historical studies, 156–157
 - from combined centers, 157–158
 - risks
 - disease progression, 159–160
 - recurrence during pregnancy, 161
 - recurrence of disease, 159
 - synchronous ovarian primary tumors, 160–161
 - treatment
 - ART, 162
 - follow-up course, 161
 - hormone receptor action mechanism, 162–163
 - postmenopausal women with progestin, 163
 - progesterone intrauterine device, 161
 - uterine sarcomas, 252–253
- Human papillomavirus (HPV) testing, 17
- I**
- Intensity modulated radiation therapy (IMRT), 187, 193–195, 210
- Intrauterine sonography, 29
- Intravenous leiomyomatosis, 72–74, 96
- Ixabepilone, 226, 229, 241, 252, 263, 266
- J**
- JAZF1-SUZ12 gene fusion, 66, 97, 98, 248
- K**
- K-ras gene, 89, 127, 131, 202, 259
- L**
- Laparoscopically assisted vaginal hysterectomy (LVAH), 19, 176, 177
- Laparoscopic surgery, 176–177
- Laparotomy, 19–20
- Leiomyomatosis, 72–73
- Leiomyosarcomas
 - cytogenetic abnormalities, 96
 - molecular abnormalities, 95
 - prognosis, EC, 129–130
 - uterine sarcomas, 248, 251
- Levonorgestrel intrauterine system (LNG-IUS), 7
- Li–Fraumeni syndrome, 15
- Low-grade endometrioid carcinomas, 48
- Low-grade endometrial stromal sarcoma, 249–250, 252, 253

- Low-grade endometrial stromal sarcoma (*cont.*)
 cytogenetic abnormalities, 97
 differential diagnosis, 66
 endometrial stromal nodule, 64
 gross features, 64
 histologic features, 64, 65
 immunophenotype, 65–66
 molecular abnormalities, 96
 molecular genetics, 66
- Low-grade Müllerian adenocarcinoma, 130–131
 gross features, 68
 histologic features, 68–69
 immunophenotype and molecular genetics, 69
 incidence, 68
- Lymphadenectomy, 20, 122, 123, 172–178, 211, 215, 216, 248, 249
- Lymph node evaluation
 lymphadenectomy, 173, 174
 multiple-site sampling, 173
 randomized trials, 174
 sentinel lymph node mapping, 175–176
- Lymphovascular space invasion (LVSI), 29, 52, 115–117, 120, 121, 129–131, 159, 184, 187, 202–204, 209, 211
- Lynch syndrome, 15, 57, 58, 87, 127, 128, 153
- M**
- Magnetic resonance imaging (MRI)
 in cancer staging, 32
 cervical invasion, 33
 diffusion-weighted imaging, 31
 extrauterine spread, 33, 34
 fat-saturated T1-weighted images, 31
 lymph nodes, 33–35
 myometrial invasion assessment, 32–33
 triplane T2-weighted fast spin echoimages, 31
 in tumor staging, 28
- Malignant mesenchymal tumors, 59, 68, 247
- Malignant mixed Müllerian tumor, 131
 gross features, 70
 histogenesis, 69
 histologic features, 70
 immunophenotype, 70–71
 incidence, 70
- Malignant smooth muscle tumor, *see* Leiomyosarcomas
- Mario Negri Institute (MaNGO) trials, 208, 224
- Marked cytologic atypia, 49, 52, 60, 61, 73
- Menopausal estrogen therapy, 2, 4–6
- Metabolic syndrome, 14
- Metastectomy, 250
- Metformin, 229
- Microsatellite instability (MSI), 49, 86–93, 98, 127–128, 203, 260, 261
- Mismatch repair genes, 260
- Mixed (mixed epithelial) carcinomas, 58
- Mixed histology tumors, 209, 210
- Molecular abnormalities
 carcinosarcomas, 95
 endometrial carcinoma
ARID1A gene alterations, 92–93
 DNA mismatch repair deficiency, 87–89
 leiomyosarcoma, 95
 low-grade endometrial stromal sarcoma, 96
 mutated genes, 86
 phosphoinositide 3-Kinase (PI3K)/Akt pathway, 89–91
 POLE mutations, 86–87
 RAS-RAF-MEK-ERK signaling pathway, 92
 TP53 gene alterations, 93–94
 Wnt signaling pathway, 91–92
 leiomyosarcoma, 95
 low-grade endometrial stromal sarcoma, 96
- Molecular pathways and targets
 claudins, 266
 EGFR, 262
 FBXW7/Cyclin E/PPP2RA1, 264
 future perspectives, 266–267
 HER2/neu (ErbB-2), 262–263
 mismatch repair genes, 260
 PI3KCA mutations, 261–262
 PI3KR1, 261, 262
 POLε mutations, 260–261
 PTEN, 261
 Skp2 E3 ligase inhibitors
 bortezomib, 265
 p27 nuclear expression, 264
 Skp2E3LIs, 265–266
 tubulin, 266
 VEGF, 263–264
- Müllerian adenocarcinoma, 250
- Multiple-site sampling, 173
- Myometrial invasion, 18, 28, 32–33, 117–118, 130–131, 155, 156
- Myxoid leiomyosarcoma, 60, 61, 63, 64, 73
- N**
- Neoadjuvant chemotherapy, 225
- Non-endometrioid (type II) endometrial carcinomas (NEEC), 86, 115, 125, 126, 128
- Nordic Society of Gynecologic Oncology (NSGO), 186, 187, 208, 224
- NRG Oncology/RTOG 0921 trial, 187
- O**
- Obesity, 4, 14–15, 119, 152, 153, 178, 202
- Oxaliplatin, 226, 228
- P**
- p53 gene, 125–126
- Paclitaxel
 adjuvant chemoradiotherapy, 186–188
 advanced stage endometrial cancer, 240–241
 carcinosarcomas, 226–228
 tubulin, 266
- Papanicolaou (Pap) smears, 17
- Pelvic radiation, 15, 20, 55, 68, 174, 188, 193, 195, 196, 204, 205, 208, 212, 224, 236, 238, 249
- Perivascular epithelioid cell tumor (PECOMA), 59, 71, 72, 74

- Peutz–Jeghers syndrome, 14, 15
- Phosphatase and tensin homolog (PTEN), 89–90, 92, 95, 126–128, 202, 203, 261–262, 265–266
- Phosphatidylinositol-3-kinase, catalytic subunit alpha (PI3KCA), 90, 261, 262
- Phosphatidylinositol-3-kinase, regulatory subunit (PI3KR1), 261, 262
- Phosphoinositide 3-kinase (PI3K)/Akt pathway, 89–91
- PIK3CA mutations, 69, 86, 87, 89, 90, 92, 94, 95, 128, 131, 202, 203
- Pipelle biopsy, 17, 173
- POLE mutations, 86–87
- Polycystic ovarian syndrome (PCOS), 14, 153
- Postmenopausal bleeding, 27, 30, 153, 202
- Post operative radiation therapy in endometrial carcinoma (PORTEC) trial, 184–189, 208, 209, 236
- Post-primary therapy imaging, 37–38
- Prognosis, EC
- age, 119
 - Bcl-2, 126
 - β-catenin, 128
 - C-Erb-B2 (HER-2/Neu), 125
 - cervical involvement, 118–119
 - clinicopathologic factors, 108
 - DNA ploidy, 123–124
 - endometrial stromal sarcoma, 130
 - estrogen and progesterone receptors, 124–125
 - FIGO stage
 - development, 108
 - surgico-pathologic staging, 110
 - survival rate, 111
 - tumor stages, 108–110
 - histologic grade
 - diffuse solid growth, 112, 113
 - vs. FIGO system, 114
 - grade 1/grade 2 EEC, 112, 113
 - high and low grade EEC, 113
 - solid growth of malignant glandular growth, 112
 - histologic type
 - adenoma malignum, 114, 115
 - clear cell carcinoma, 116–117
 - dedifferentiated carcinoma, 115, 116
 - MELF, 115
 - mucinous adenocarcinomas, 115
 - non-endometrioid carcinomas, 115–116
 - squamous cell carcinomas, 117
 - squamous differentiation, 114
 - villoglandular adenocarcinoma, 115
- K-ras, 127
- leiomyosarcomas, 129–130
- low-grade Müllerian adenocarcinoma, 130–131
- lymphovascular invasion, 120
- malignant mixed Müllerian tumor, 131
- microsatellite instability, 127–128
- myometrial invasion, 117–118
- new molecular alterations, 128–129
- p53, 125–126
- PTEN, 126–127
- stage IIIA, 120–122
- stage IIIB, 122
- stage IIIC, 122–123
- undifferentiated endometrial sarcoma, 130
- uterine sarcomas, 129
- R**
- Radiation therapy
- advanced stage endometrial cancer
 - peritoneal cytology, 238
 - postoperative chemoradiation, 239, 240
 - postoperative radiation therapy, 239
 - IMRT, 193–195, 210
 - recurrent endometrial cancer
 - concurrent chemotherapy with, 237
 - local control, 236
 - nonradiated group vs. adjuvant radiation therapy group, 236
 - pelvic radiation and brachytherapy, 236–237
 - 3D-CRT, 192–193
 - uterine sarcomas, 250–251
- RAS-RAF-MEK-ERK signaling pathway, 86, 92, 262
- Recurrent endometrial cancer
- radiation therapy
 - concurrent chemotherapy with, 237
 - local control, 236
 - nonradiated group vs. adjuvant radiation therapy group, 236
 - pelvic radiation and brachytherapy, 236–237
 - surgery for stage IV and
 - cytoreductive surgery, 237
 - pelvic exenteration, 237
 - residual disease, 237, 238
 - treatment (*see* Chemotherapy; Combined treatment modalities)
- S**
- Screening
- bleeding in postmenopausal women, 15
 - congenital duplications, 16
 - endometrial biopsy, 16
 - hysterectomy, 13
 - irregular bleeding in premenopausal women, 15
 - recommendations, 18
 - routine screening, 13–14
 - type I endometrial cancer, 14
 - type II endometrial cancer, 14
 - vaginal bleeding prevention, 15, 16
- Sentinel lymph node biopsy, 174–176, 178, 203, 212
- Sentinel lymph node mapping algorithm, 175–176
- Serous carcinomas
- gross features, 55
 - histologic features, 55–56
 - immunophenotype, 56
- Sex hormone-binding globulin (SHBG) levels, 4, 5
- Single-agent chemotherapy, 226, 228
- Skp2 E3 ligase inhibitors, 264–266
- Small cell carcinoma, 58, 117
- Sonohysterography (SHG), 27, 30
- Sorangium cellulosum*

- SOX17* gene, 91, 203
- Spindle cell leiomyosarcoma, 61–63
- Squamous cell carcinoma, 58, 117
- Squamous metaplasia, 50, 52–54
- Surgical staging, 21
 - FIGO staging system, 19
 - operative techniques
 - laparoscopic hysterectomy, 19
 - laparotomy, 19–20
 - lymphadenectomy, 20
 - vaginal approach, 20
- Systemic non-hormonal therapy, 251–252
- T**
- Tamoxifen, 15, 18, 27, 30, 158, 161, 241–242
- Taxanes, 225, 226, 228
- 3D-conformal radiation therapy, 192–193, 195
- Total laparoscopic hysterectomy (TLH), 176
- TP53* gene alterations, 49, 86, 87, 93–96, 203
- Transitional cell carcinoma, 58, 117
- Transvaginal ultrasound (TVUS), 26
 - endometrial morphology, 27–28
 - endometrial thickness measurement, 26–27
 - of normal postmenopausal endometrium, 26
 - in tumor staging, 28–30
- Type I endometrial cancer, 14, 48, 171, 264
- Type II endometrial cancer, 14, 49, 55, 58, 86, 94, 115, 127, 171, 259–262
- U**
- Undifferentiated carcinomas, 58–59
- Undifferentiated endometrial sarcoma, 64, 67, 130, 248, 249, 252
- Undifferentiated uterine sarcoma, 63, 64, 67–68
- Uterine carcinosarcomas
 - adjuvant radiation
 - randomized controlled trial, 212
 - recurrence rates, 212–214
 - survival rates, 213
 - WPRT +/-vaginal brachytherapy, 212–214
 - chemotherapy, 214–216
 - clinical features, 211
 - epithelial/mesenchymal tumors, 210, 211
 - multimodality therapy, 216–217
 - pathologic variables, 211
 - single modality therapy, 213
 - stage IA, 212
 - survival rate, 211
 - treatment, 211–212 (*see also* Clear cell carcinoma; Uterine serous carcinoma)
- Uterine leiomyosarcoma
 - classification, 59
 - differential diagnosis, 63–64
 - gross features, 60
 - histologic features
 - epithelioid leiomyosarcoma, 61, 62
 - high grade leiomyosarcoma, 60
 - low-grade leiomyosarcoma, 60
 - mitotic activity, 60
 - moderate-to-severe cytologic atypia, 60
 - myxoid leiomyosarcoma, 61, 63
 - spindle cell leiomyosarcoma, 61, 62
 - tumor cell necrosis, 60
 - immunophenotype, 62–63
 - incidence, 59
- Uterine sarcomas
 - adjuvant chemotherapy, 249–250
 - adjuvant hormonal therapy, 250
 - adjuvant pelvic radiation, 249
 - adjuvant therapy, 249
 - biologic therapy, 253
 - high-grade endometrial stromal sarcoma, 97
 - hormonal therapy, 252–253
 - leiomyosarcoma, 248, 251
 - cytogenetic abnormalities, 96
 - molecular abnormalities, 95
 - low-grade endometrial stromal sarcoma, 249–250
 - cytogenetic abnormalities, 97
 - molecular abnormalities, 96
 - malignant mesenchymal tumors, 247
 - metastectomy, 250
 - Mullerian adenosarcoma, 250
 - preoperative diagnosis, 248
 - primary surgery, 248
 - prognosis, EC, 129
 - radiation therapy, 250–251
 - recurrent/metastatic disease, 250
 - systemic non-hormonal therapy, 251–252
 - targeted therapy, 253
 - undifferentiated endometrial sarcoma, 249
- Uterine serous carcinoma
 - adjuvant chemotherapy, 205–208
 - clinical features, 202
 - combined modality therapy, 206–208
 - diagnosis, 202
 - HER2/neu receptor, 202–203
 - LVSI, 203
 - radiotherapy, 204–205
 - surgical staging, 203
 - survival rate, 204
 - treatment, 204 (*see also* Clear cell carcinoma; Uterine carcinosarcomas)
- V**
- Vaginal brachytherapy, 186, 188–190, 195, 196, 205, 207, 210, 212, 213, 216
- Vaginal cuff PTV, 194
- Vaginal intracavitary brachytherapy (VBT), 183, 184, 186–190, 205, 207
- Vascular endothelial growth factor (VEGF), 263–264
- Villoglandular adenocarcinoma, 50, 54, 114
- W**
- Whole pelvic radiation therapy (WPRT), 187, 192, 205, 206, 208, 212–214, 216, 217, 240
- Wnt signaling pathway, 91–92