



Index

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

A

Adjuvant therapy, arterial chemotherapy as,
for hepatic colorectal metastases,
195–212

American Joint Committee on Cancer
(AJCC), evaluation of new AJCC/
UICC staging system for
hepatocellular carcinoma, **35–50**

Angiogenesis, hepatic colorectal metastases
and, 141, **151–163**

- assessment of, 152
- biology of tumor-associated,
151–152
- cell adhesion molecules, 155–156
- endogenous inhibitors of,
154–155
- matrix protein, 156–158
- other antiangiogenic strategies,
158–159
- proangiogenic factors, 152–154

Angiopoietins, hepatic colorectal metastases
and, 143–144

Antihormonal therapy, for hepatocellular
carcinoma, 130

Apoptosis, hepatic colorectal metastases
and, 144–145

Arterial chemotherapy. See *Transarterial
chemoembolization and Hepatic arterial
infusion*.

B

Biologically based treatment, of hepatic
colorectal metastases, 145–147

- anti-vascular endothelial growth
factor therapy, 145–146
- inhibitors of cyclooxygenase, 147
- inhibitors of epidermal growth
factors, 146
- tissue inhibitors of metallopro-
teinases, 146

Biology, of colorectal liver metastases,
135–150

of tumor-associated angiogenesis,
151–152

Biopsy, hilar lymph node, with frozen
sections, for suspected hepatic
colorectal metastases, 228

C

Cancer, hepatic, radiofrequency ablation
for, **245–257**

See also *Hepatocellular
carcinoma*.

liver. See also *Hepatocellular
carcinoma*.

Carcinogenesis, of hepatocellular
carcinoma, role of viral
hepatitis in, 3–5

Cell adhesion molecules, and angiogenesis
in hepatic colorectal metastases,
155–156

Chemoembolization, transarterial (TACE),
for hepatocellular carcinoma, **105–125**

- contraindications, 111–112
- in combination with other
treatments, 118–119
- indications, 111
- patient selection, 112
- results, 113–118
- side effects and complications,
110–111
- technique, 107–110
- for local tumor control while waiting
for liver transplantation, 85–86

Chemotherapy, down-staging unresectable
hepatic colorectal metastases with,
214–218

- for local tumor control while waiting
for liver transplantation,
systemic, 85
- transcatheter arterial, 83, 85–86
- hepatic arterial infusion for hepatic
colorectal metastases, **195–212**
- systemic, indications for in
hepatocellular carcinoma,
127–134

- Chemotherapy (*continued*)
 antihormonal, 130
 assessing response to,
 130–132
 combination, 129
 predicting who will respond to,
 132–133
- Chinese patients, with hepatocellular carcinoma, evaluation of new AJCC/ UICC staging system for, after hepatic resection in, **35–50**
- Chronic liver disease, hepatocellular carcinoma in, major hepatic resection for, **51–63**
- Cirrhosis, role in pathogenesis of hepatocellular carcinomas, 19–20
- Colorectal cancer, liver metastases from, angiogenesis and, **151–163**
 arterial chemotherapy as adjuvant and palliative treatment of, **195–212**
 biology of, **135–150**
 hepatic resection after down staging of unresectable, **213–222**
 hilar lymph node metastases in, **223–231**
 prognostic indicators after resection of, **165–193**
- Cyclooxygenase, inhibitors of, for treatment of liver metastases, 147, 158
- Cytoreductive hepatic surgery, for metastases from neuroendocrine tumors, **233–244**
 See also *Surgery, hepatic*.

D

- Down-staging, of unresectable hepatic colorectal metastases, hepatic resection after, **213–222**

E

- Endostatin, inhibitor of angiogenesis in hepatic colorectal metastases, 155
- Epidemiology, of hepatocellular carcinoma, role of viral hepatitis in, 1–3
- Epidermal growth factor, inhibitors of, for treatment of liver metastases, 146
- Ethanol injection, percutaneous, for local tumor control while waiting for liver transplantation, 83, 85

G

- Gastrointestinal neuroendocrine tumors, hepatic surgery for metastases from, **233–244**
- Grading, histologic, of hepatocellular carcinomas, 16
- Growth factor receptors, in biology of colorectal liver metastases, 138–139
- Growth factors, in biology of colorectal liver metastases, 138–139

H

- Hanging maneuver, in partial hepatic resection, 57–58
- Hepatic arterial infusion, as adjuvant and palliative treatment of hepatic colorectal metastases, **195–212**
 cytoreductive surgery and, 203–208
 randomized studies of, 197–203
 tailoring of, using molecular analysis, 208
 technical aspects of pump placement, 196–197
 in unresectable hepatic colorectal metastases, 220
- Hepatic artery embolization, for hepatocellular carcinoma, **105–125**
 contraindications, 111–112
 in combination with other treatments, 118–119
 indications, 111
 patient selection, 112
 results, 113–118
 side effects and complications, 110–111
 technique, 107–110
- Hepatic metastases. See *Metastases, liver*.
- Hepatic resection, after down-staging of unresectable hepatic colorectal metastases, **213–222**
 for hepatocellular carcinoma, evaluation of new AJCC/UICC staging system for, in Chinese patients after, **35–50**
 improving the results of partial, 55–60
 intraoperative ultrasound guidance of, 94–101
 invading major portal and/or hepatic veins, results of, **65–75**
 major, selective approach to, in chronic liver disease, **51–63**
 results of partial, 53–54

- of metastases from colorectal carcinoma, current criteria for exclusion, 183–186
 - potential contraindications to, 175–183
 - extrahepatic disease, 177–181
 - number of metastases, 177
 - resection margin, 181–183
 - prognostic indicators after, **165–193**
 - completeness of tumor removal, 169
 - demographic and personal features, 169–171
 - metastasis features, 172–174
 - primary tumor features, 171
 - therapeutic approach, 174–175
 - See also *Surgery, hepatic*.
 - Hepatic veins, hepatic resection for hepatocellular carcinoma invading, **65–75**
 - intraoperative ultrasound guidance for, 100–101
 - Hepatitis B, and hepatocellular carcinoma, what surgeons should know, **1–11**
 - epidemiology, 1–2
 - implications for prevention and screening, 7–8
 - natural history and presentation, 5–6
 - pathogenesis, 3–4, 20–21
 - Hepatitis C, and hepatocellular carcinoma, what surgeons should know, **1–11**
 - epidemiology, 2–3
 - implications for prevention and screening, 8–9
 - natural history and presentation, 6
 - pathogenesis, 4–5, 20–21
 - Hepatocellular carcinoma, hepatic artery embolization for, **105–125**
 - hepatic resection for, evaluation of new AJCC/UICC staging system for, in Chinese patients after, **35–50**
 - invading major portal and/or hepatic veins, results of, **65–75**
 - major, selective approach to in chronic liver disease, **51–63**
 - intraoperative ultrasonography in, **91–103**
 - liver transplantation for, indications for and limitations of, **77–90**
 - microscopic vascular invasion in, spectrum and significance of, **25–34**
 - pathologic spectrum of, **13–24**
 - macroscopic features, 14–15
 - growth patterns, 14–15
 - multiplicity of, 15
 - size of, 15
 - microscopic features, 16–19
 - growth interface, 16–18
 - histologic classification, 16
 - lymphatic invasion, 18
 - mitosis, 19
 - variation of architecture, 16
 - vascular invasion, 18
 - radiofrequency ablation for, **245–257**
 - viral hepatitis and, what surgeons should know, **1–11**
 - epidemiology, 1–3
 - implications for prevention and screening, 7–9
 - natural history and clinical presentation, 5–6
 - pathogenesis, 3–5
 - Hilar lymph node metastases, in hepatic colorectal metastases, **223–231**
 - lymphatic drainage of liver, 224
 - resection of, reports of clinical studies on, 224–225
 - routine biopsy of, with frozen section, 228
 - sentinel lymph node mapping, 229
 - systematic study of microscopic involvement, 225–228
 - what to do in practice, 229–230
 - Histologic classification, of hepatocellular carcinomas, 16
-
- I**
- Integrins, and angiogenesis in hepatic colorectal metastases, 155–156
 - International Union Against Cancer (UICC), evaluation of new AJCC/UICC staging system for hepatocellular carcinoma, **35–50**
 - Intraoperative ultrasonography, in liver cancer, **91–103**
 - guidance for resection, 94–101
 - of hepatocellular carcinoma, 94–98
 - of liver metastases, 98–100
 - of tumors involving hepatic veins, 100–101
 - identification of liver nodules, 92–94

- Invasion, by hepatocellular carcinomas, microscopic vascular, spectrum and significance of, **25–34**
 - of major portal and/or hepatic veins, results of hepatic resection for, **65–75**
 - vascular and lymphatic, 18
- of colorectal liver metastases, biology of, 138–139

L

- Liver Cancer Study Group of Japan, new staging system for hepatocellular carcinoma, compared with new AJCC/ UICC system, **35–50**
- Liver disease, chronic, major hepatic resection for hepatocellular carcinoma in, **51–63**
 - hepatic malignancies, radiofrequency ablation for, **245–257**
 - hepatocellular carcinoma. See *Hepatocellular carcinoma*.
 - underlying, in hepatocellular carcinoma, prognostic significance of, 19–21
- Liver metastases. See *Metastases, liver*.
- Liver transplantation, for hepatocellular carcinoma, indications and limitations, **77–90**
 - methods for bridging to, 82–86
 - reducing tumor recurrence after, 86–87
- Lymph nodes, hilar, hepatic colorectal metastases of, **223–231**
- Lymphatic invasion, of hepatocellular carcinomas, 18

M

- Matrix proteins, and angiogenesis in hepatic colorectal metastases, 156–158
- Metastases, liver, from colorectal cancer, angiogenesis and, **151–163**
 - arterial chemotherapy as adjuvant and palliative treatment of, **195–212**
 - biology of, **135–150**
 - hepatic resection after down staging of unresectable, **213–222**
 - hilar lymph node metastases in, **223–231**
 - prognostic indicators after resection of, **165–193**
- from neuroendocrine tumors, hepatic surgery for, **233–244**

- ablation therapy, 239
- chemotherapy and embolization, 240
 - rationale for, 233–235
 - results of, 235–237
 - survival, 237–239
- resection of, intraoperative ultrasound guidance for, 98–100

Mitosis, of hepatocellular carcinomas, 19

Molecular analysis, tailoring arterial chemotherapy for hepatic colorectal metastases using, 208

N

- Neuroendocrine tumors, hepatic surgery for metastases from, **233–244**
 - ablation therapy, 239
 - chemotherapy and embolization, 240
 - rationale for, 233–235
 - results of, 235–237
 - survival, 237–239
- Nodules, liver, intraoperative ultrasonography of, 92–94

O

Orthotopic liver transplantation. See *Liver transplantation*.

P

- Palliative therapy, arterial chemotherapy as, for hepatic colorectal metastases, **195–212**
- Partial liver resection. See *Hepatic resection*.
- Pathologic spectrum, of hepatocellular carcinoma, **13–24**
- Percutaneous ethanol injection (PEI), for local tumor control while waiting for liver transplantation, 83, 85
 - in combination with transarterial chemoembolization (TACE), 118–119
- Portal vein, hepatic resection for hepatocellular carcinoma invading, **65–75**
- Portal vein embolization, before major hepatic resection, 58–60
- Prevention, of viral hepatitis and hepatocellular carcinoma, 7–9
- Pringle maneuver, in partial hepatic resection, 56–57

Prognostic indicators, after resection of hepatic metastases from colorectal carcinoma, **165–193**
in hepatocellular carcinoma, 19–21

R

Radiofrequency ablation, for hepatic malignancies, **245–257**
complications, 246–249
for local tumor control while waiting for liver transplantation, 86
in combination with transarterial chemoembolization, 118–119
local tumor recurrence, 252–255
survival, 255–256
tumor response, 249–252

Recurrence, tumor, after liver transplantation for hepatocellular carcinoma, methods to reduce, 86–87

Regional chemotherapy. See *Chemotherapy, Hepatic arterial infusion, and Transarterial chemoembolization.*

Resection, hepatic. See *Hepatic resection.*

S

Screening, for viral hepatitis and hepatocellular carcinoma, 7–9

Sentinel node mapping, of hilar lymph node, in suspected hepatic colorectal metastases, 229

Staging, of hepatocellular carcinoma, evaluation of new AJCC/UICC system for, in Chinese patients after hepatic resection, **35–50**

Surgery, hepatic resection, after down-staging of unresectable hepatic colorectal metastases, **213–222**
cytoreductive, for metastases from neuroendocrine tumors, **233–244**
in hepatocellular carcinoma, evaluation of new AJCC/UICC staging system after, **35–50**
invading major portal and/or hepatic veins, **65–75**
major, in chronic liver disease, **51–63**
of hepatic colorectal metastases, prognostic indicators after, **165–193**

resection of macroscopic hilar lymph node metastases, 224–225

Systemic chemotherapy. See *Chemotherapy.*

T

Thrombospondin, hepatic colorectal metastases and, 142–143

Tissue inhibitors of metalloproteinases (TIMPs), for treatment of liver metastases, 146

TNP-470, antiangiogenic therapy with, for hepatic colorectal metastases, 158–159

Transarterial chemoembolization (TACE), for hepatocellular carcinoma, **105–125**
contraindications, 111–112
in combination with other treatments, 118–119
indications, 111
patient selection, 112
results, 113–118
side effects and complications, 110–111
technique, 107–110

Transcatheter arterial chemotherapy, for local tumor control while waiting for liver transplantation, 83, 85
See also *Transarterial chemoembolization.*

Transplantation, liver. See *Liver transplantation.*

U

Ultrasonography, intraoperative, in liver cancer, **91–103**
guidance for resection, 94–101
of hepatocellular carcinoma, 94–98
of liver metastases, 98–100
of tumors involving hepatic veins, 100–101
identification of liver nodules, 92–94

V

Vascular endothelial growth factor (VEGF), hepatic colorectal metastases and, 142, 152–154
anti-VEGF therapy for, 145–146

Vascular invasion, of hepatocellular carcinomas, 18
spectrum and significance of microscopic, **25–34**

Veins, hepatic. See *Hepatic veins*.

Viral hepatitis, and hepatocellular carcinoma, what surgeons should know, **1–11**
epidemiology, 1–3

implications for prevention and screening, 7–9
natural history and clinical presentation, 5–6
pathogenesis, 3–5, 19–21