

1. Abbruzzese JL, Thomas MB. Opportunities for targeted therapies in hepatocellular carcinoma. *J Clin Oncol* 2005; 23: 8093–108.
2. Abou-Alfa G, Johnson P, Knox J, et al. Preliminary results from a phase II, randomized, double-blind study of sorafenib plus doxorubicin versus placebo plus doxorubicin in patients with advanced hepatocellular carcinoma. *Eur J Cancer* 2007; 5 (Suppl): Abst 3500.
3. Abou-Alfa GK, Schwartz L, Ricci S, et al. Phase II study of sorafenib in patients with advanced hepatocellular carcinoma. *J Clin Oncol* 2006; 24: 4293–300.
4. Andy S.Y., Emmet B.K.: Management of Hepatocellular Carcinoma. Reviews in gastroenterological disorders, vol.3, no.1, 2003.
5. Anne M. Covey, M.D. Mary A. Maluccio, M.D.
6. Arteaga CL, Baselga J. Clinical trial design and end points for epidermal growth factor receptor-targeted therapies: implications for drug development and practice. *Clin Cancer Res* 2003; 9 (5): 1579 – 1589.
7. Atlas der Ultraschallanatomie, Thieme, S. 207, Abb.4, 1988.
8. Baere T.D., Dufaux J., Roche A., et al: Circulatory Alterations Induced by Intra-arterial Injection of iodized Oil and Emulsions of Iodized Oil and Doxorubicin: Experimental Study. *Radiology*, 194:165-170, 1998.

9. Barbare JC, Bouche O, Bonnetain F, et al. Randomized controlled trial of tamoxifen in advanced hepatocellular carcinoma. *J Clin Oncol* 2005; 23: 4338–46.
10. Bartolozzi C, Cioni D, Donati F, et al: Focal liver lesions: MR imaging-pathologic correlation. *Eur Radiol*, 11:1374– 1388, 2001.
11. Becker G, Allgaier HP, Olschewski M, et al. Long-acting octreotide versus placebo for treatment of advanced HCC: a randomized controlled double-blind study. *Hepatology* 2007; 45: 9–15.
12. Befeler A.: Chemoembolization and bland embolization: a critical appraisal. *Clin Liver Dis.*, 9:287-300, 2005.
13. Biselli M., Andreone P., Gramenzi A., et al.: Transcatheter arterial chemoembolization therapy for patients with hepatocellular carcinoma: a case controlled study. *Clin Gastroenterol and Hepat. Sep*, 3(9): 918-925, 2005.
14. Brancatelli G, Federle M.P., Grazioli L, et al: Hepatocellular carcinoma in non-cirrhotic liver: CT, clinical, and pathologic findings in 39 U.S. residents. *Radiology*, 222:89–94, 2002.
15. Bronowicki J.P., Vetter D., Dumas F., et al.: Transcatheter oily chemoembolization for hepatocellular carcinoma: a 4-year study of 127 French patients. *Cancer*; 74: 16–24, 2004.
16. Brown DB, Geschwind JF, Soulen MC, et al. Society of

- Interventional Radiology position statement on chemoembolization for hepatic malignancies. *J Vasc Interv Radiol* 2006; 17: 217–23.
17. Bruix J., Sherman M., Llovet J.M., et al: Clinical management of hepatocellular carcinoma. Conclusions of the Barcelona- 2000 EASL conference. European Association for the Study of the Liver. *J Hepatol*, 35:421–430, 2001.
18. Burger I, Hong K, Schulick R et al Transcatheter arterial chemoembolization in unresectable cholangiocarcinoma: initial experience in a single institution. *J Vasc Interv Radiol* 16:353–361(2005)
19. Camma C., Filippo S., Ambrogio O., et al.: Transarterial Chemoembolization for Unresectable Hepatocellular Carcinoma: Meta-Analysis of Randomized Controlled Trials. *Radiology*, 224:47–54, 2002.
20. Caridi J.: Transcatheter Arterial Chemoembolization, 2003.
21. Carr BI, Kondragunta V, Buch SC, Branch RA. Therapeutic equivalence in survival for hepatic arterial chemoembolization and yttrium 90 microsphere treatments in unresectable hepatocellular carcinoma: a two-cohort study. *Cancer* 2010;116(5):1305-14
22. Carretero C, Munoz-Navas M, Betes M, et al. Gastroduodenal injury after radioembolization of hepatic tumors. *Am J Gastroenterol* 2007;102(6):1216-20

23. Caturelli E., Domenico A.S., Saverio F., et al: Transcatheter Arterial Chemoembolization for Hepatocellular Carcinoma in Patients with Cirrhosis: Evaluation of Damage to Non-tumorous Liver Tissue- Long-term Prospective Study. *Radiology*, 215:123-128, 2000.
24. Chao Y, Li CP, Chau GY, et al. Prognostic significance of vascular endothelial growth factor, basic fibroblast growth factor, and angiogenin in patients with resectable hepatocellular carcinoma after surgery. *Ann Surg Oncol* 2003; 10: 355–62.
25. Chen C.Y., Li C.W., Kuo Y.T., et al.: Early Response of Hepatocellular Carcinoma to Transcatheter Arterial Chemoembolization: Choline Levels and MR Diffusion Constants—Initial Experience. *Radiology*, 239:448-456, 2006.
26. Chen H.Y., Wang X., Chen D., et al.: The value and limitation of transcatheter arterial chemoembolization in preventing recurrence of resected hepatocellular carcinoma. *World J Gastroenterol*, 21; 11(23): 3644-3646, June 2005.
27. Chen M.S., Li J.Q., Zhang Y.Q., et al.: High-dose Iodized Oil Transcatheter Arterial Chemoembolization For Patients with Large Hepatocellular Carcinoma. *World J Gastroenterol*, 8(1):74-78, 2002.
28. Cheng H. Y., Yi S., Xiang W., et al: Adjustment of lipiodol dose according to tumor blood supply during transcatheter arterial chemoembolization for

- large hepatocellular carcinoma by multidetector helical CT. *World J Gastroenterol*, 15;10(18):2753-2755, September 2004.
29. Choi B.I.: The current status of imaging diagnosis of hepatocellular carcinoma. *Liver Transpl*, 10:S20–S25, 2004.
30. Choi J.: Regional Transcatheter Therapy of Hepatic Neoplasms. *Cancer Control Journal*, Volume 3 Number 5, 1996.
31. Chopra S, Dodd GD 3rd, Chanin MP, Chintapalli KN. Radiofrequency ablation of hepatic tumors adjacent to the gallbladder: feasibility and safety. *AJR Am J Roentgenol* 2003; 180: 697–701
32. Christophi C., Winkworth A., Muralidharan V., et al.: The treatment of malignancy by hyperthermia. *Surg Oncol*, 7:83–90, 1999.
33. Chung J.W., Park J. H.: Transcatheter Arterial Chemoembolization of Hepatocellular Carcinoma, 2004.
34. CIGNA Healthcare Coverage Position: Transcatheter Arterial Chemoembolization (TACE). Originally published Feb.15, 2006.
35. Clark H. P., W. Forrest C., Peter V. K., et al: Staging and Current Treatment of Hepatocellular Carcinoma. *Radiographics*, 25:S3–S23, 2005.
36. Clinical Pharmacology Editorial Team. Drug Reference. Available at URL address: <http://staging.chw.healthinkonline.com/index.asp>.

Accessed Nov 10, 2005.

37. Cohn M.: Hepatic arterial chemoembolization in the treatment of liver tumors, Radiology associates of Hollywood, 2006.
38. Coldwell D, Sangro B, Wasan H, et al. General selection criteria of patients for radioembolization of liver tumors: an international working group report. Am J Clin Oncol 1 Oct 2010. [Epub ahead of print] doi: 10.1097/COC.0b013e3181ec61bb.
39. Collins JM . Pharmacologic rationale for regional drug delivery . J Clin Oncol 1984 ; 2 (5): 498 – 504 .
40. Corl F.M., Fishman E.K.: Medical illustration gallery, J Biocommun, 26:10 -13, 1999.
41. Covey A.M., Lynn A.B., Mary A.M., et al: Variant Hepatic Arterial Anatomy Revisited: Digital Subtraction Angiography Performed in 600 Patients¹. Radiology, 224:542-547, 2002.
42. Covey A.M., Anne M. Covey, M.D.¹ Mary A. Maluccio, M.D.² Johanna Schubert, M.D.¹ © American Cancer Society DOI 10.1002/cncr.21883 (2006).
43. D'Avola D, Lnarrairaegui M, Bilbao JI, et al. A retrospective comparative analysis of the effect of Y90-radioembolization on the survival of patients with unresectable hepatocellular carcinoma. Hepatogastroenterology 2009;56(96):1683-8
44. Daniel R.J., Ludwig G.S., Bernard D.C., et al:

- Hepatocellular Carcinoma. AJR Am J Roentgeno, June 23, 2004.
45. De Baere T., Bessoud B., Dromain C., et al.: Percutaneous radiofrequency ablation of hepatic tumors during temporary venous occlusion. AJR, 178:53–59, 2002.
46. De Luis E, Bilbao J, de Ciećrcoles J et al (2008) In vivo evaluation of a new embolic spherical particle (hepasphere) in a kidney animal model. Cardiovasc Intervent Radiol 31(2):367–376.
47. Ding H., Masatoshi K., Hirokazu O., et al.: Hepatocellular Carcinoma: Depiction of Tumour Parenchymal Flow with Intermittent Harmonic Power Doppler US during the Early Arterial Phase in Dual-Display Mode. Radiology, 220:349–356, 2001.
48. Dodd G., Michael C.S., Robert A.K., et al.: Minimally Invasive Treatment of Malignant Hepatic Tumours: At the Threshold of a Major Breakthrough. Radiographics, 20: 9–27, 2000.
49. Dorenberg EJ, Jakobsen JA, Brabrand K, Hafsahl G, Smith HJ (2007) The feasibility of contrast-enhanced ultrasound during uterine artery embolization: a pilot study. Cardiovasc Intervent Radiol 30:882–887.
50. Eleni Liapi • Jean-Francois H. Geschwind Transcatheter Arterial Chemoembolization for Liver Cancer: Is It Time to Distinguish Conventional from Drug-Eluting Chemoembolization? Cardiovasc Intervent Radiol (2011) 34:37–49

51. Ensminger WD . Intrahepatic arterial infusion of chemotherapy: pharmacologic principles . Semin Oncol 2002 ; 29 (2): 119 – 125 .
52. França A.V.C., J. Elias J., B.L.G. Lima, et al: Diagnosis, staging and treatment of hepatocellular carcinoma. Braz J Med Biol Res, Volume 37(11) 1689-1705, November 2004.
53. Gaba RC, Lewandowski RJ, Kulik LM, et al. Radiation lobectomy: preliminary findings of hepatic volumetric response to lobar yttrium-90 radioembolization. Ann Surg Oncol 2009;16(6):1587-96
54. Gates J., George G.H., Keith E.S., et al: Chemoembolization of Hepatic Neoplasms: Safety, Complications, and When to Worry. Radiographic, 19:399–414, 1999.
55. Georgiades C.S., Ramsey D.E., Solomon S, et al: New nonsurgical therapies in the treatment of hepatocellular carcinoma. Tech Vasc Interv Radiol, 4: 193–199, 2001.
56. Georgiades CS, Hong K, D'Angelo et al . Safety and efficacy of transarterial chemoembolization in patients with unresectable hepatocellular carcinoma and portal vein thrombosis. J Vasc Interv Radiol 16:1653–1659.(2005)
57. Georgiades CS, Liapi E, Frangakis C et al (2006) Prognostic accuracy of 12 liver staging systems in patients with unresectable hepatocellular carcinoma treated with transarterial chemoembolization. J Vasc

- Interv Radiol 17:1619–1624.
58. Ger R.: Surgical anatomy of the liver. Surg Clin. , North Am, 69(2), 179-191, 1989.
59. Geschwind J.F.: Interventional radiology. In: DeVita VT, Hellman S, Rosenberg SA, eds. Cancer: principles and practice of oncology. Philadelphia: Lippincott-Raven, 8 690–707, 2001.
60. Geschwind J.F., Ramsey D.E., Choti M.A., et al.: Chemoembolization of hepatocellular carcinoma: results of a meta-analysis. Am J Clin Oncol, 2002.
61. Geschwind J.F., Artemov D., Abraham S., et al.: Chemoembolization of liver tumour in a rabbit model: assessment of tumour cell death with diffusion-weighted MR imaging and histologic analysis. J Vasc Interv Radiol, 11: 1245–1255, 2000.
62. Geschwind JF, Ramsey DE, van der Wal BC et al . Transcatheter arterial chemoembolization of liver tumors: effects of embolization protocol on injectable volume of chemotherapy and subsequent arterial patency. Cardiovasc Intervent Radiol 26:111–117.(2203)
63. Geschwind JFH . Chemoembolization for hepatocellular carcinoma: where does the truth lie? J Vasc Interv Radiol 13:991–994.(2002)
64. Gish RG, Porta C, Lazar L, et al. Phase III randomized controlled trial comparing the survival of patients with unresectable hepatocellular carcinoma treated with nolatrexed or doxorubicin. J Clin Oncol 2007; 25: 3069–

75.

65. Goldberg S.N., Girnan G.D., Lukyanov A.N., et al.: Percutaneous tumor ablation: increased necrosis with combined radio-frequency ablation and intravenous liposomal doxorubicin in a rat breast tumour model. *Radiology*, 222:797-804, 2002.
66. Goldberg A.T., Rose D.M., Pinson C.W., et al.: Hepatocellular carcinoma outcomes based on indicated treatment strategy. *Am Surg*, 64: 1128–1135, 2005.
67. Goldberg S.N., Kamel I.R., Kruskal J.B., et al.: Radiofrequency ablation of hepatic tumours: increased tumour destruction with adjuvant liposomal doxorubicin therapy. *AJR*, 179: 93–101, 2002.
68. Gondolesi GE, Roayaie S, Munoz L, et al. Adult living donor liver transplantation for patients with hepatocellular carcinoma: extending UNOS priority criteria. *Ann Surg* 2004; 239: 42–9.
69. Grainger R.G. and Allison D.J.: The liver, biliary tract, pancreas and endocrine system. In *Textbook of medical imaging* ed. By Grainger & Allison, 4th edition, Churchill Livingstone, Edinburgh, London, 1240, 2001.
70. Gray H.: The Digestive Apparatus, The liver. In *Textbook of Gray's Anatomy of the Human Body* features ed. By Warren H. L., 12th edition, Lea & Febiger, Philadelphia, 1740, 2005.
71. Guan Y. S., Long S., Xiang-Ping Z., et al: Hepatocellular carcinoma treated with interventional

- procedures: CT and MRI follow-up. *World J Gastroenterol*, 15 10(24):3543-3548, December 2004.
72. Hirai T., Korogi Y., Ono K., et al.: Intra-arterial chemotherapy or chemoembolization for locally advanced and/or recurrent hepatic tumors: evaluation of the feeding artery with an interventional CT system. *Cardiovasc Intervent Radiol*, 24: 176–179, 2001.
73. Hong D., Wen-Ping W., Bei-Jian H., et al.: Imaging of Focal Liver Lesions: Low-Mechanical-Index Real-time Ultrasonography with SonoVue. *J Ultrasound Med*, 24:285-297, 2005.
74. Huang GT, Lee PH, Tsang YM et al. Percutaneous ethanol injection versus surgical resection for the treatment of small hepatocellular carcinoma: a prospective study. *Ann Surg* 2005; 242: 36–42.
75. Ichikawa T., Kitamura T., Nakajima H., et al: Hypervascular hepatocellular carcinoma: can double arterial phase imaging with multidetector CT improve tumor depiction in the cirrhotic liver? *AJR Am J Roentgenol*, 179:751–758, 2002.
76. Inarrairaegui M, Thurston KG, Bilbao JI, et al. Radioembolization with use of yttrium-90 resin microspheres in patients with hepatocellular carcinoma and portal vein thrombosis. *J Vasc Interv Radiol* 2010;21(8):1205-12
77. Ito Y, Sasaki Y, Horimoto M, et al. Activation of mitogen-activated protein kinases/extracellular signal-

- regulated kinases in human hepatocellular carcinoma. *Hepatology* 1998; 27: 951–8.
78. Jacobson D.R.: Hepatocellular Carcinoma. *Emedicine*. June 2004.
79. Jean-Francois H.G., Douglas E.R., Berry C., et al: Transcatheter Arterial Chemoembolization of Liver Tumours: Effects of Embolization Protocol on Injectable Volume of Chemotherapy and Subsequent Arterial Patency. *Cardiovasc Intervent Radiol*, 26:111–117, 2003.
80. Jiang Y.F., Yang Z.H., Hu J.Q.: Recurrence or metastasis of HCC: predictors, early detection and experimental antiangiogenic therapy. *World J Gastroenterol*, 6:61-65, 2000.
81. Johanna Schubert, M.D. Leah BenPorat, Ph.D.
82. Johnson P.: Hepatocellular Carcinoma Introductory Overview. *Innovations in Cancer Therapy* May 2005.
83. Kaasa S., Loge J.H.: Quality-of-life assessment in palliative care. *Lancet Oncol*, 3: 175–182, 2002.
84. Kamel I.R., David A.B., John E., et al.: The Role of Functional MR Imaging in the Assessment of Tumor Response after Chemoembolization in Patients with Hepatocellular Carcinoma. *J Vasc Interv Radiol*, 17:505–512, 2006.
85. Karahan O.I., Yikilmaz A, Isin S, et al: Characterization of hepatocellular carcinoma with triphasic CT and correlation with histopathologic

- findings. *Acta Radiol*, 44:566–571, 2003.
86. Kemeny NE , Niedzwiecki D , Hollis DR , et al .
Hepatic arterial infusion versus systemic therapy for
hepatic metastases from colorectal cancer: a randomized
trial of efficacy, quality of life, and molecular markers
(CALGB 9481) .; 24 (9): 1395 – 1403 . *J Clin Oncol*
2006
87. Kennedy A, Nag S, Salem R, et al. Recommendations
for radioembolization of hepatic malignancies using
yttrium-90 microsphere brachytherapy: a consensus
panel report from the radioembolization brachytherapy
oncology consortium. *Int J Radiat Oncol Biol Phys*
2007;68(1):13-23
88. Khan K.N., Nakata K., Kusumoto Y., et al.:
Evaluation of Nontumorous Tissue Damage by
Transcatheter Arterial Embolization for Hepatocellular
Carcinoma. *Cancer research* 51, 5667-5671. October
15. 2001.
89. Khan A.N., Macdonald S., Tam E.C., et al.:
Chemoembolization, Hepatic. *e-medicine*, 2003.
90. Kim H.C., Ah Y.K., Joon K.H., et al: Hepatic
Arterial and Portal Venous Phase Helical CT in
Patients Treated with Transcatheter Arterial
Chemoembolization for Hepatocellular Carcinoma:
Added Value of Un-enhanced Images. *Radiology*,
225:773–780, 2002.
91. Kim A.Y., Choi B.I., Kim T.K., et al: Hepatocellular
Carcinoma: Power Doppler US with a Contrast Agent-

Preliminary Results, Radiology, 1998.

92. Kim H.S., Kobeiter H., Hun-charek M.S., et al.: Chemoembolization of liver tumours: impact on quality of life. Presented at the 93rd Annual Meeting of the American Association for Cancer Research, San Francisco, Calif, April 6-10, 2001.
93. Kim W., Clark T.W., Baum R.A., et al.: Risk factors for liver abscess formation after hepatic chemoembolization. J Vasc Interv Radiol, 12:965-968, 2001.
94. Kitamoto M., Imagawa M., Yamada H., et al: Radiofrequency Ablation in the Treatment of Small Hepatocellular Carcinomas: Comparison of the Radiofrequency Effect With and Without Chemoembolization AJR, 181:997–1003, 2003.
95. Koda M., Murawaki Y., Mitsuda A., et al.: Combination therapy with transcatheter arterial chemoembolization and percutaneous ethanol injection compared with percutaneous ethanol injection alone for patients with small hepatocellular carcinoma: a randomized control study. Cancer Chemother Pharmacol, Sep 15; 92(6):1516-24, 2002.
96. Konno T. Targeting cancer chemotherapeutic agents by use of lipiodol contrast medium. Cancer 1990;66(9):1897–1903.
97. Kooby DA, Egnatashvili V, Srinivasan S, et al. Comparison of yttrium-90 radioembolization and transcatheter arterial chemoembolization for the

- treatment of unresectable hepatocellular carcinoma. J Vasc Interv Radiol 2010;21(2):224-30.
98. Kulik LM, Atassi B, van Holsbeeck L, et al. Yttrium-90 microspheres (TheraSphere) treatment of unresectable hepatocellular carcinoma: downstaging to resection, RFA and bridge to transplantation. J Surg Oncol 2006;94(7):572-86
99. Kulik LM, Carr BI, Mulcahy MF, et al. Safety and efficacy of 90Y radiotherapy for hepatocellular carcinoma with and without portal vein thrombosis. Hepatology 2008;47(1):71-81
100. Kwon J.W., Jin W.C., Soon-Young S.: Transcatheter Arterial Chemoembolization for Hepatocellular Carcinomas in Patients with Celiac Axis Occlusion. Journal of Vascular and Interventional Radiology, 13:689-694, 2002.
101. Laghi A., Iannaccone R., Rossi P., et al: Hepatocellular carcinoma: detection with triple-phase multidetector row helical CT in patients with chronic hepatitis. Radiology, 226:543–549, 2003.
102. Laurent A . Microspheres and nonspherical particles for embolization. Tech Vasc Interv Radiol 10:248–256.(2007)
103. Lawrence TS, Robertson JM, Anscher MS, et al. Hepatic toxicity resulting from cancer treatment. Int J Radiat Oncol Biol Phys 1995;31(5):1237-48.
104. Lee K.H., Kyu-Bo S., Do-Yun L., et al.:

- Transcatheter Arterial Chemoembolization for Hepatocellular Carcinoma: Anatomic and Hemodynamic Considerations in the Hepatic Artery and Portal Vein. *Radiographics*, 22:1077–1091, 2002.
105. Lee K.H.Y., O'Malley M.E., Haider M.A., et al: Triple-phase MDCT of hepatocellular carcinoma. *AJR Am J Roentgenol*, 182:643–649, 2004.
106. Lencioni R, Cioni D, Crocetti L, et al: Magnetic resonance imaging of liver tumors. *J Hepatol*, 40:162–171, 2004.
107. Lencioni R, Cioni D. Percutaneous methods for ablation of hepatic neoplasms. In: Blumgart LH, ed. *Surgery of the Liver, Biliary Tract, and Pancreas*, 4th edn. Philadelphia, PA: Saunders, 2007: 1269–77.
108. Lencioni R, Mascalchi M, Caramella D, Bartolozzi C. Small hepatocellular carcinoma: differentiation from adenomatous hyperplasia with color Doppler US and dynamic Gd-DTPA-enhanced MR imaging. *Abdom Imaging* 1996; 21: 41–8.
109. Lencioni R., Cioni D., and Bartolozzi C.: Clinico-Pathological Features of Hepatocellular Carcinoma. In *Focal Liver Lesions Detection, Characterization, Ablation*, Springer, Germany, 2005.
110. Lescano M., Carneiro M., Elias Junior J., et al.: Experiencia inicial en la evaluación de pacientes with carcinoma hepatocelular em um Hospital terciario. *Gastroenterologíay Hepatología*, 25 (Suppl 2): I-9-I-43, 2002.

111. Lev-Toaff AS, Friedman AC, Cohen LM, Radecki PD, Caroline DF (1987) Hepatic infarcts: new observations by CT and sonography. *AJR Am J Roentgenol* 149:87–90.
112. Leung TW, Lau WY, Ho SK, et al. Radiation pneumonitis after selective internal radiation treatment with intraarterial 90yttrium-microspheres for inoperable hepatic tumors. *Int J Radiat Oncol Biol Phys* 1995;33(4):919-24
113. Lewis A, Gonzalez M, Leppard S et al . Doxorubicin eluting beads. 1. Effects of drug loading on bead characteristics and drug distribution. *J Mater Sci Mater Med* 18:1691–1699.(2007)
114. Lewis AL, Gonzalez MV, Lloyd AW et al . DC bead: in vitro characterization of a drug-delivery device for transarterial chemoembolization. *J Vasc Interv Radiol* 17:335–342.(2006)
115. Liapi E., Geschwind J.F.: Transcatheter Arterial Chemoembolization for the Treatment of Hepatocellular Carcinoma. *US oncology review*, 2006.
116. Liapi E, Geschwind JF, Vossen JA et al . Functional MRI evaluation of tumor response in patients with neuroendocrine hepatic metastasis treated with transcatheter arterial chemoembolization. *AJR Am J Roentgenol* 190:67–73.(2008)
117. Liapi E , Geschwind JF . Transcatheter arterial chemoembolization for liver cancer: is it time to distinguish conventional from drug-eluting

- chemoembolization? Cardiovasc Intervent Radiol 2011 ;
34 (1): 37 - 49 .
118. Link DP, Strandberg JD, Virmani R et al .
Histopathologic appearance of arterial occlusions with hydrogel
and polyvinyl alcohol embolic material in domestic swine. J
Vasc Interv Radiol 7:897–905.(1996)
119. Llovet J, Ricci S, Mazzaferro V, et al. SHARP
Investigators Study Group. Sorafenib improves survival
in advanced hepatocellular carcinoma (HCC): results of
a phase III randomized placebo-controlled trial (SHARP
trial). J Clin Oncol 2007; 25. ASCO Annual Meeting
Proceedings LBA1.
120. Llovet J.M. & Beaugrand M.: Hepatocellular
carcinoma: present status and future prospects.
Journal of Hepatology, 38 (Suppl):I-136-I-149, 2003.
121. Llovet J.M., Real M.I., Montana X., et al.:
Arterial embolisation or chemoembolisation versus
symptomatic treatment in patients with unresectable
hepatocellular carcinoma: a randomised
controlled trial. Lancet, 18; 359(9319):1734-9, May
2002.
122. Lo C.M., Ngan H., Tso W.K., et al.: Randomized
controlled trial of transarterial lipiodol
chemoembolization for unresectable hepatocellular
carcinoma. Hepatology, 35: 1164–1171, 2002.
123. Lu C.D., Peng S.Y., Jiang X.C., et al.:
Preoperative transcatheter arterial chemoembolization
and prognosis of patients with hepatocellular

- carcinomas: retrospective analysis of 120 cases. *World J Surg*, 23: 293–300, 1999.
124. Lun-Xiu Q., Zhao-You T.: The prognostic significance of clinical and pathological features in hepatocellular carcinoma. *World Journal of Gastroenterology*, 8(2):193-199, 2002.
125. Lynn A. Brody, M.D. 1 Constantinos T. Sofocleous, M.D. 1 George I. Getrajdman, M.D. 1 Yuman Fong, M.D. 4 Karen T. Brown, M.D. Particle Embolization of Recurrent Hepatocellular Carcinoma after Hepatectomy(2006).
126. Malagari K, Alexopoulou E, Chatzimichail K et al . Transcatheter chemoembolization in the treatment of HCC in patients not eligible for curative treatments: midterm results of doxorubicin-loaded DC bead. *Abdom Imaging* 33:512–519.(2008)
127. Malagari K, Chatzimichael K, Alexopoulou E et al . Transarterial chemoembolization of unresectable hepatocellular carcinoma with drug eluting beads: results of an open-label study of 62 patients. *Cardiovasc Intervent Radiol* 31:269–280.(2008)
128. Malagari K, Pomoni M, Kelekis A, Pomoni A, Dourakis S, Spyridopoulos T et al . Prospective randomized comparison of chemoembolization with doxorubicin-eluting beads and bland embolization with beadblock for hepatocellular carcinoma. *Cardiovasc Intervent Radiol* 33:541–551.(2010)
129. Marelli L, Shusang V, Buscombe JR, et al.

- Transarterial injection of (131)I-lipiodol, compared with chemoembolization, in the treatment of unresectable hepatocellular cancer. *J Nucl Med* 2009;50(6):871-7.
130. Martin RC, Robbins K, Tomalty D et al . Transarterial chemoembolisation (TACE) using irinotecan-loaded beads for the treatment of unresectable metastases to the liver in patients with colorectal cancer: an interim report. *World J Surg Oncol* 7:80.(2009)
131. Matsui O., Kadoya M., Yoshikawa J., et al.: Subsegmental transcatheter arterial embolization for small hepatocellular carcinomas: local therapeutic effect and 5-year survival rate. *Cancer Chemother Pharmacol*, 33 (suppl): 84–88, 2000.
132. Matsui O., Kadoya M., Yoshikawa J., et al.: Small hepatocellular carcinoma: treatment with subsegmental transcatheter arterial embolization . *Radiology*, 18: 79-83, 2001.
133. Matsuo N., Uchida H., Sakaguchi H., et al.: Optimal lipiodol volume in transcatheter arterial chemoembolotherapy for hepatocellular carcinoma: study based on lipiodol accumulation patterns and histopathologic findings. *Semin Oncol*, 24 (2 Suppl 6): 61-70, 1997.
134. McGahan J.P., Dodd G.D. III.: Radiofrequency ablation of the liver: current status. *AJR*, 176:3–16, 2001.
135. Meader S., *Advances in Radiation Therapy: Endovascular and Percutaneous Treatment of Metastatic*

Colorectal Cancer, 2004.

136. Melendez FDH , Kemeny N . Pharmacologic principles of regional therapy in the treatment of liver metastases or primary liver tumors . In: Geschwind JFH , Soulen MC , eds. Interventional oncology: principles and practice . Cambridge, England : Cambridge University Press , 2008 ; 38 – 52 .
137. Monsky W.L., Kruskal J.B., Lukyanov A.N., et al.: Radio- frequency ablation increases intra-tumoural liposomal doxorubicin accumulation in a rat breast tumour model. Radiology, 224:823–829, 2002.
138. Monto A., Wright T.L.: The epidemiology and prevention of Hepatocellular carcinoma. Semin Oncol 28:41 – 449, 2001.
139. Murakami T., Kim T., Katamura M., et al: Hypervascular hepatocellular carcinoma: detection with double arterial phase multi-detector row helical CT. Radiology, 218:763– 767, 2001.
140. Murthy R., Rodolfo N., Janio S., et al.: Yttrium-90 Microsphere Therapy for Hepatic Malignancy: Devices, Indications, Technical Considerations, and Potential Complications. Radiographics, 25:S41–S55, 2005.
141. Nakamura H., Hashimoto T., Oi H.: Treatment of hepatocellular carcinoma by segmental hepatic artery injection of Adriamycin- in-oil emulsion with overflow to segmental portal veins. Acta Radiol, 30: 347-349, 2002.

142. Nakao N., Uchida H., Kamino K., et al.:
Determination of optimum dose level of Lipiodol in
transcatheter arterial embolization of primary
hepatocellular carcinoma based on retrospective
multivariate analysis, *Cardiovasc Intervent Radio*, 17:
76-80, 2004.
143. Nakao N, Uchida H, Kamino K et al .
Effectiveness of lipiodol in transcatheter arterial
embolization of hepatocellular carcinoma. *Cancer
Chemother Pharmacol* 31(suppl):S72–S76.(1992)
144. National Cancer Institute (NCI). CancerNet-
PDQ. Localized and locally advanced unresectable
adult primary liver cancer. Available at URL address:
[http://www.cancer.gov/cancertopics/pdq/treatment/adult
-primary liver/healthprofessional](http://www.cancer.gov/cancertopics/pdq/treatment/adult-primary%20liver/healthprofessional). Updated 2005 Feb.
Accessed Nov 10, 2005.
145. National Cancer Institute (NCI). CancerNet-PDQ.
Adult primary liver cancer. Treatment–health
professionals. Available at URL address:
[http://www.cancer.gov/cancertopics/pdq/treatment/adult
-primary liver/healthprofessional](http://www.cancer.gov/cancertopics/pdq/treatment/adult-primary%20liver/healthprofessional). Updated 2005 Feb.
Accessed Nov 10, 2005.
146. Nishimine K., Uchida H., Matsuo N., et al.:
Segmental transarterial chemoembolization with
Lipiodol mixed with anticancer drugs for non-
resectable hepatocellular carcinoma: follow-up CT
and therapeutic results. *Cancer Chemother
Pharmacol*, 33 (suppl):560-568, 2005.

147. Nishimura Y., Uchida H., Guo Q., et al.: Transcatheter arterial embolization (TAE) for 1075 cases of hepatocellular carcinoma: evaluation of TAE using Lipiodol mixed with anticancer agents focusing on cumulative survival rate and 69 cases achieving 3- year survival. *Jpn Soc Cancer Ther*, 26: 2279 – 2289, 2005.
148. Ohishi H, Ohue S, Imai S, Katsuragi M, Fukuzumi A, Matsuo N et al Evaluation of arterial embolization therapy for hepatocellular carcinoma by ultrasonography. *Nippon Igaku Hoshasen Gakkai Zasshi* 42:8–15(1982)
149. Ohishi H, Uchida H, Kurosaki Y, Yoshimura H, Ohue S, Katsuragi M et al .Evaluation by ultrasonography of arterial embolization therapy for hepatocellular carcinoma. *Cardiovasc Intervent Radiol* 6:104–108.(1983)
150. Okamura J, Kawai S, Ogawa M et al . Prospective and randomized clinical trial for the treatment of hepatocellular carcinoma: a comparison of L-TAE with Farmorubicin and L-TAE with Adriamycin (second cooperative study). *Cancer Chemother Pharmacol (Historical Archive)* 31:S20(1992)
151. Okusaka T , Kasugai H , Shioyama Y , et al . Transarterial chemotherapy alone versus transarterial chemoembolization for hepatocellular carcinoma: a randomized phase III trial . *J Hepatol* 2009 ; 51 (6): 1030 – 1036 .
152. Osorio R.: California Pacific Medical Center,

- Liver Cancer (Hepatocellular Carcinoma), 2000.
153. Pacella C. M., Giancarlo B., Pietro C., et al.:
Hepatocellular Carcinoma: Long-term Results of
Combined Treatment with Laser Thermal Ablation and
Transcatheter Arterial Chemoembolization. *Radiology*,
219:669–678, 2001.
154. Palmer DH, Hussain SA, Johnson PJ.
Systemic therapies for hepatocellular carcinoma.
Expert Opin Investig Drugs; 3: 1555–68.(2004)
155. Park JG , Collins JM , Gazdar AF , et al .
Enhancement of fluorinated pyrimidine-induced
cytotoxicity by leucovorin in human colorectal
carcinoma cell lines . *J Natl Cancer Inst* 1988 ; 80 (19) :
1560 – 1564 .
156. Pawlik TM, Choti MA. Surgical therapy for
colorectal metastases to the liver. *J Gastrointest Surg*
2007; 11: 1057–77.
157. Park YN, Yang CP, Fernandez GJ, et al. Neo angiogenesis
and sinusoidal “capillarization” in dysplastic nodules of
the liver. *Am J Surg Pathol* 1998; 22: 656–62.
158. Philip PA, Mahoney MR, Allmer C, et al. Phase
II study of erlotinib (OSI-774) in patients with advanced
hepatocellular cancer. *J Clin Oncol* 2005; 23: 6657–63.
159. Pino-Talbot J.M., et al: liver diseases. Rutgers
University Fall 2005.

160. Poon R.T., Fan S.T., Yu W.C., et al.: A prospective longitudinal study of quality of life after resection of hepatocellular carcinoma. *Arch Surg*, 136: 693–699, 2001.
161. Poon RT, Tso WK, Pang RW et al (2007) A phase I/II trial of chemoembolization for hepatocellular carcinoma using a novel intra-arterial drug-eluting bead. *Clin Gastroenterol Hepatol* 5:1100–1108.
162. Qian J., Feng G.S., Vog T.: Combined interventional therapies of hepatocellular carcinoma. *World J Gastroenterol*. September, Volume 9(9), 2003.
163. Ramsey D.E., van der Wal B.C.H., Kobe-iter H., et al.: Transcatheter arterial chemoembolization of liver tumours: effects of embolization protocol on subsequent arterial patency and injectable volume of chemotherapy. Presented at the 27th Annual Meeting of the Society of Cardiovascular and Interventional Radiology, Baltimore, MD, April 11, 2002.
164. Ramsey D.E., Lily Y.K., Michael C.S., et al: Chemoembolization of Hepatocellular Carcinoma. *Journal of Vascular and Interventional Radiology*, 13:S211-S221, 2002.
165. Raoul JL, Guyader D, Bretagne JF, et al. Randomized controlled trial for hepatocellular carcinoma with portal vein thrombosis: intra-arterial iodine-131-iodized oil versus medical support. *J Nucl Med* 1994;35(11):1782-7.

166. Raoul JL, Guyader D, Bretagne JF, et al.
Prospective randomized trial of chemoembolization
versus intra-arterial injection of ¹³¹I-labeled-iodized oil
in the treatment of hepatocellular carcinoma. *Hepatology*
1997;26(5):1156-61
167. Reyes DK, Vossen JA, Kamel IR et al . Single-center
phase II trial of transarterial chemoembolization with drug-
eluting beads for patients with unresectable hepatocellular
carcinoma: initial experience in the United States. *Cancer J*
15:526–532.(2009)
168. Reynaert H, Rombouts K, Vandermonde A, et al.
Expression of somatostatin receptors in normal and
cirrhotic human liver and in hepatocellular carcinoma.
Gut 2004; 53: 1180–9.
169. Rhee T.K., Omary R.A., Gates V., et al: The
Effect of Catheter- Directed CT Angiography on
Yttrium-90 Radioembolization Treatment of
Hepatocellular Carcinoma. *J Vasc Interv Radiol*,
16:1085–1091, 2005.
170. Rhim H, Dodd GD 3rd, Chintapalli KN, et al.
Radiofrequency thermal ablation of abdominal tumors:
lessons learned from complications. *Radiographics*
2004; 24: 41–5.
171. Riaz A, Kulik L, Lewandowski RJ, et al.
Radiologic-pathologic correlation of hepatocellular
carcinoma treated with internal radiation using yttrium-
90 microspheres. *Hepatology* 2009;49(4):1185-93

172. Richard H.M., Silberzweig J.E., Mitty H.A., et al.:
Hepatic arterial complications in liver transplant recipients treated with pretransplantation chemoembolization for hepatocellular carcinoma. *Radiology*, 214: 775–779, 2000.
173. Robin R., David J. H., Alastair D. B., et al:
Liver, biliary tract and pancreas. In Muir's textbook Of pathology, 14th Edition, Edward Arnold Ltd., London, 661 – 723 , 2007.
174. Roche A, Girish B, de Baere T et al. Transcatheter arterial chemoembolization as first-line treatment for hepatic metastases from endocrine tumors. *Eur Radiol* 13:136.(2003)
175. Ronald W.B. and Goran B.K.: Surgical anatomy of the liver. In Textbook of Transplantation of the liver, 2th edition, Elsevier Saunders, Philadelphia, USA, 25, 2005.
176. Ross W.S., John L.H., Bernard D.C., et al:
Hepatocellular Carcinoma. *AJR Am J Roentgeno*, August 7, 2002.
177. Rossi S., Garbagnati F., Lencioni R., et al.:
Percutaneous radio- frequency thermal ablation of nonresectable hepatocellular carcinoma after occlusion of tumour blood supply. *Radiology*, 217:119–126, 2000.
178. Saccheri S., Andrea L., Angelo S., et al:
Segmental Transcatheter Arterial Chemoembolization Treatment in Patients with Cirrhosis and Inoperable

- Hepatocellular Carcinomas. Journal of Vascular and Interventional, Radiology, 13:995-999, 2002.
179. Sakamoto N , Arai Y , Takeuchi Y , Takahashi M , Tsurusaki M , Sugimura K . Ultrasoundguided radiological placement of central venous port via the subclavian vein: a retrospective analysis of 500 cases at a single institute . Cardiovasc Intervent Radiol 2010 Apr 14 . [Epub ahead of print]
180. Salem R , Lewandowski RJ , Kulik L , et al
Radioembolization results in longer time to progression and reduced toxicity compared with chemoembolization in patients with hepatocellular carcinoma .
Gastroenterology 2011 ; 140 (2): 497 - 507
181. Salem R, Lewandowski RJ, Mulcahy MF, et al.
Radioembolization for hepatocellular carcinoma using yttrium-90 microspheres: a comprehensive report of long-term outcomes. Gastroenterology 2010;138(1):52-64
182. Salem R, Thurston KG. Radioembolization with yttrium-90 microspheres: a state-of-the-art brachytherapy treatment for primary and secondary liver malignancies. III. Comprehensive literature review and future direction. J Vasc Interv Radiol 2006; 17(10):1571–1594.
183. Salem R, Lewandowski RJ, Mulcahy MF, et al.
Radioembolization for hepatocellular carcinoma using yttrium-90 microspheres: a comprehensive report of

long-term outcomes. *Gastroenterology* 2010;138(1):52-64

184. Saluzzo CM, Vignali C, Nicolini A et al . TACE with HepaSphere microspheres loaded with chemotherapeutic agent: early experience in Italy of a multi-centre study. In: WCIO 2007, Washington, DC .(2007)
185. Sangro B, Gil-Alzugaray B, Rodriguez J, et al. Liver disease induced by radioembolization of liver tumors: description and possible risk factors. *Cancer* 2008;112(7):1538-46.
186. Sangro B, Gil-Alzugaray B, Rodriguez J, et al. Liver disease induced by radioembolization of liver tumors: description and possible risk factors. *Cancer* 2008;112(7):1538-46
187. Sangro B, Delia D'Avola, et al Transarterial therapies for hepatocellular carcinoma (2011) 12(7):1057-1073
188. Schacherer D, Girlich C, Zorger N, Wiest R, Schoelmerich J, Feuerbach S et al . Sono-hepatic-arteriography (Sono-HA) in the assessment of hepatocellular carcinoma in patients undergoing transcatheter arterial chemoembolization (TACE). *Ultraschall Med* 31:270–275."(2010)
189. Schwartz J, Schwartz M, Lehrer D, et al. Bevacizumab in hepatocellular carcinoma (HCC) in patients without metastases and without portal vein

- invasion. J Clin Oncol 2005; 23: 4122.
190. Shibata T., Murakami T, Ogata N.: Percutaneous microwave coagulation therapy for patients with primary and metastatic hepatic tumours during interruption of hepatic blood flow. Cancer, 88: 302–311, 2000.
191. Siskin GP, Dowling K, Virmani R et al . Pathologic evaluation of a spherical polyvinyl alcohol embolic agent in a porcine renal model. J Vasc Interv Radiol 14:89–98.(2003)
192. Soulen M.C.: Chemoembolization for Hepatic Malignancies, 2004.
193. Stuart K.: Chemoembolization in the Management of Liver Tumours. The Oncologist, Vol. 8, No. 5, 425–437, October 2003.
194. Stuart K Chemoembolization in the management of liver tumors. Oncologist 8:425–437. (2003)
195. Sugo H., Futagawa S., Beppu T., et al.: Role of preoperative transcatheter arterial chemoembolization for respectable hepatocellular carcinoma: relation between postoperative course and the pattern of tumour recurrence. World J Surg., 27(12):1295-9, Dec 2003.
196. Sutton D. and Gregson RHS.:The liver and spleen. In Textbook of radiology and imaging ed. By Sutton D., 7th edition, Churchill Livingstone, Edinburgh, London, 753-754, 2003.
197. Sze D.Y., Razavi M.K., So S.K., et al.: Impact of

- multidetector CT hepatic arteriography on the planning of chemoembolization treatment of hepatocellular carcinoma. *AJR Am J Roentgenol*, 177: 1339–1345, 2001.
198. Tadavarthy SM, Knight L, Ovitt TW et al . Therapeutic transcatheter arterial embolization. *Radiology* 112:13–16.(1974)
199. Tajima T., Honda H., Taguchi K., et al: Sequential hemodynamic change in hepatocellular carcinoma and dysplastic nodules: CT angiography and pathologic correlation. *AJR Am J Roentgenol*, 178:885–897, 2002.
200. Takayasu K., Muramatsu, Y., Furukawa H., et al.: Early hepatocellular carcinoma: appearance at CT during arterial portography and CT arteriography with pathologic correlation. *Radiology*, 194:101-105, 2003.
201. Tanaka K., Okazaki H., Nakamura S., et al.: Hepatocellular carcinoma: treatment with a combination therapy of transcatheter arterial embolization and percutaneous ethanol injection. *Radiology*, 179: 713–717, 1991.
202. Tangkijvanich P., Anukulkarnkusol N., Suwangool P., et al: Clinical characteristics and prognosis of hepatocellular carcinoma: analysis based on serum alpha-fetoprotein levels. *J Clin Gastroenterol*, 31:302-308, 2000.
203. Taylor C.R., Krinsky G., Coombs B.D., et