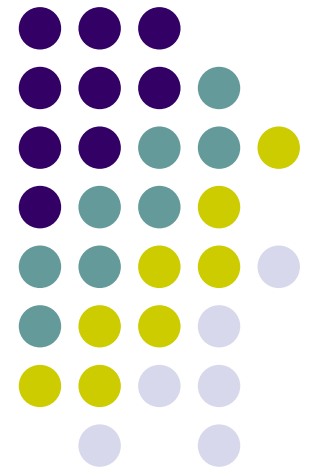


肝臓の内科的治療

広島市民病院内科 能祖一裕





肝癌の内科的治療

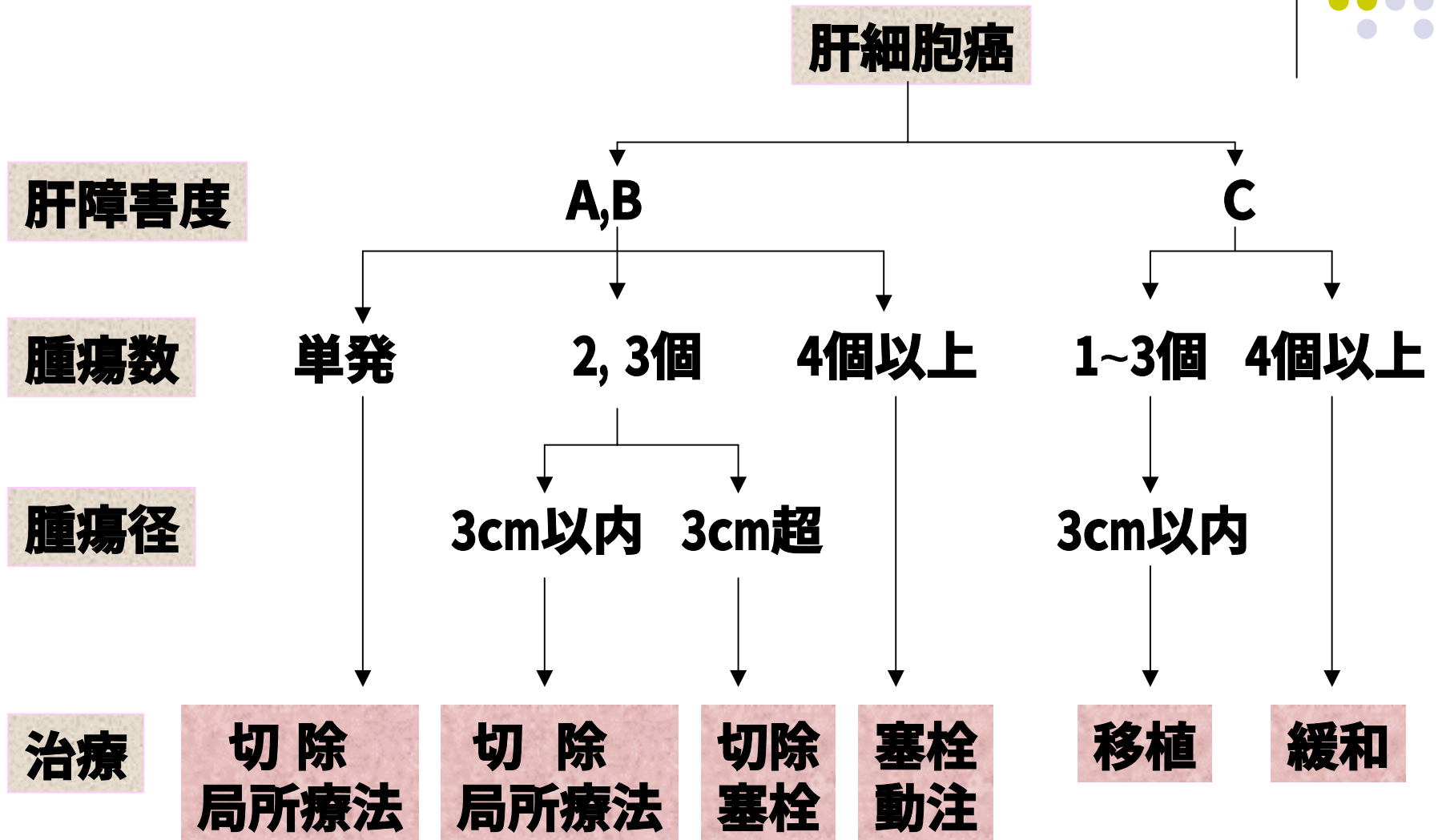
- 治療
- 再発予防

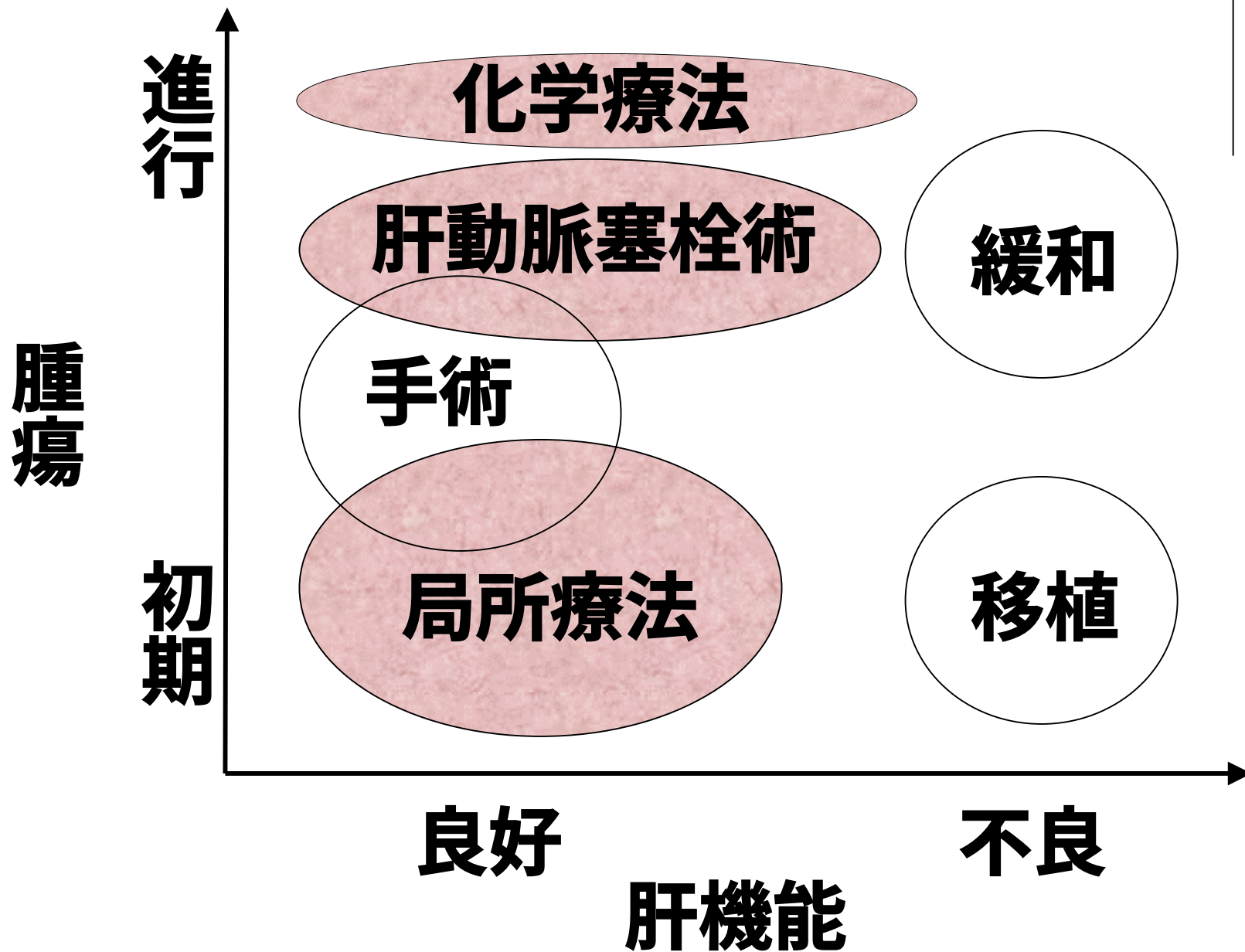


肝癌の治療法

- RFA (ラジオ波焼灼療法)
 - PEIT (エタノール局注療法)
 - MCT (マイクロ波凝固療法)
 - OPE (手術)
 - TAE (肝動脈塞栓療法)
 - Chemo (抗がん剤動注療法)
 - Transplantation (肝移植)
- 局所療法

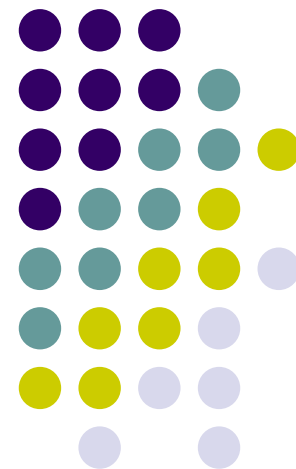
肝細胞癌治療のアルゴリズム



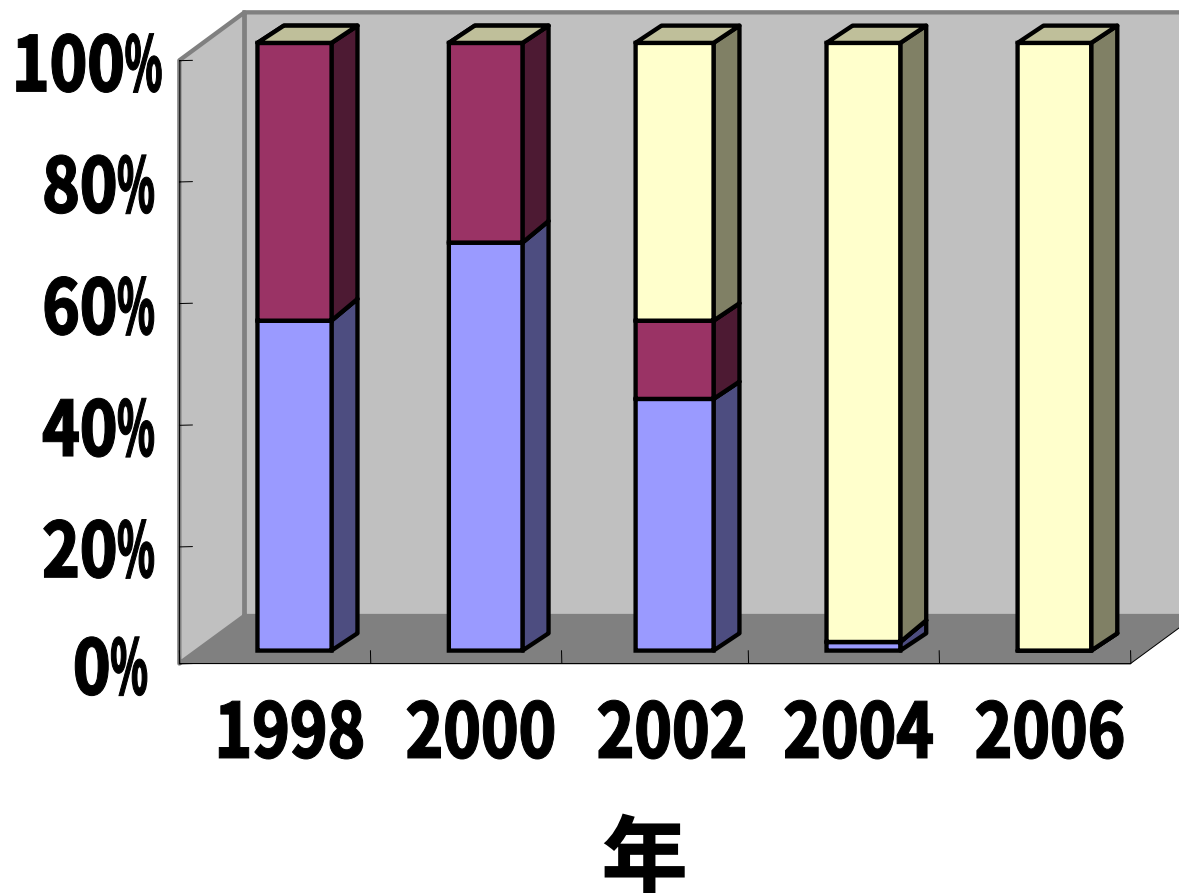


肝癌局所療法

- PEIT (エタノール局注療法)
- MCT (マイクロ波凝固療法)
- RFA (ラジオ波焼灼療法)



局所療法の変遷



■ RFA
■ MCT
■ PEIT



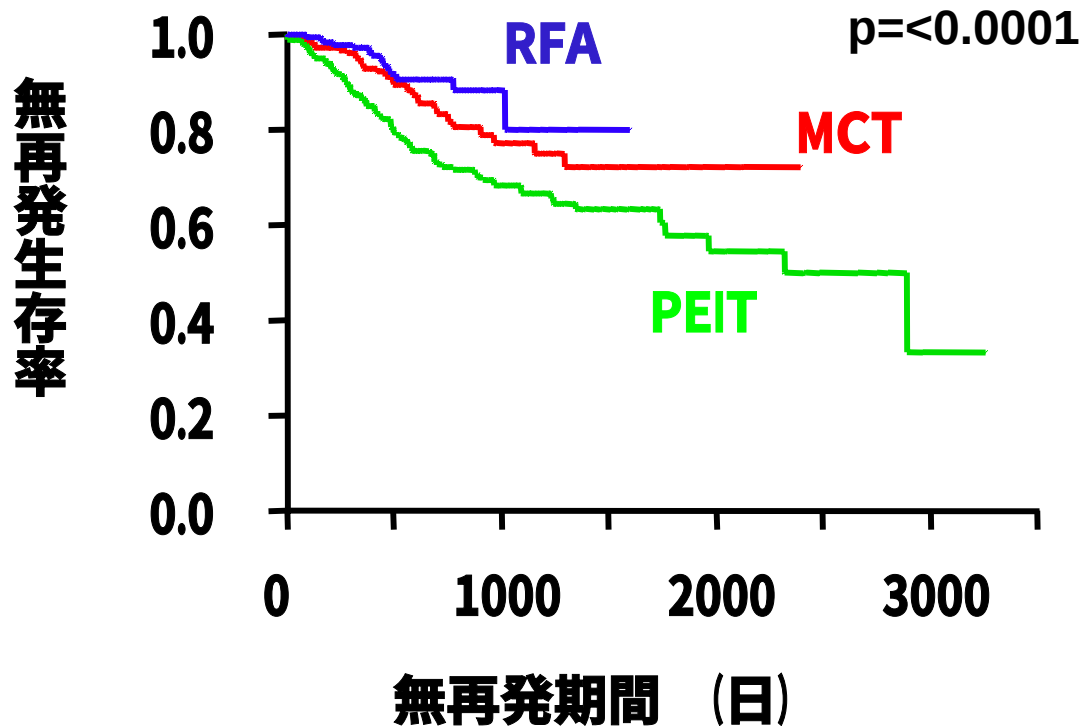
RFAの特徴

- 局所再発率がPEITに比べて少ない
- 一度の焼灼で一定範囲が確実に治療
- 体位の工夫、人工胸水の使用等でほとんどの病変が治療可能

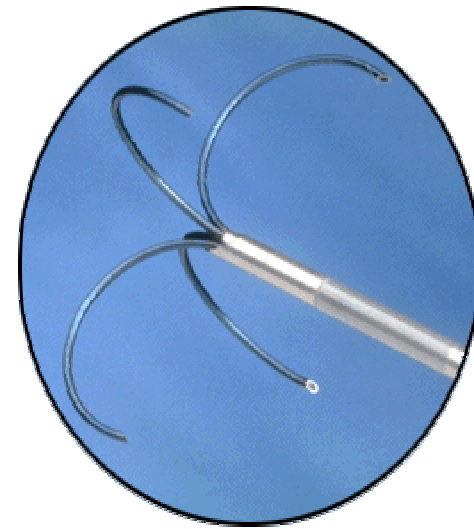


治療法別無再発生存率 (n=567)

局所再発



Radio Frequency Ablation (RFA)



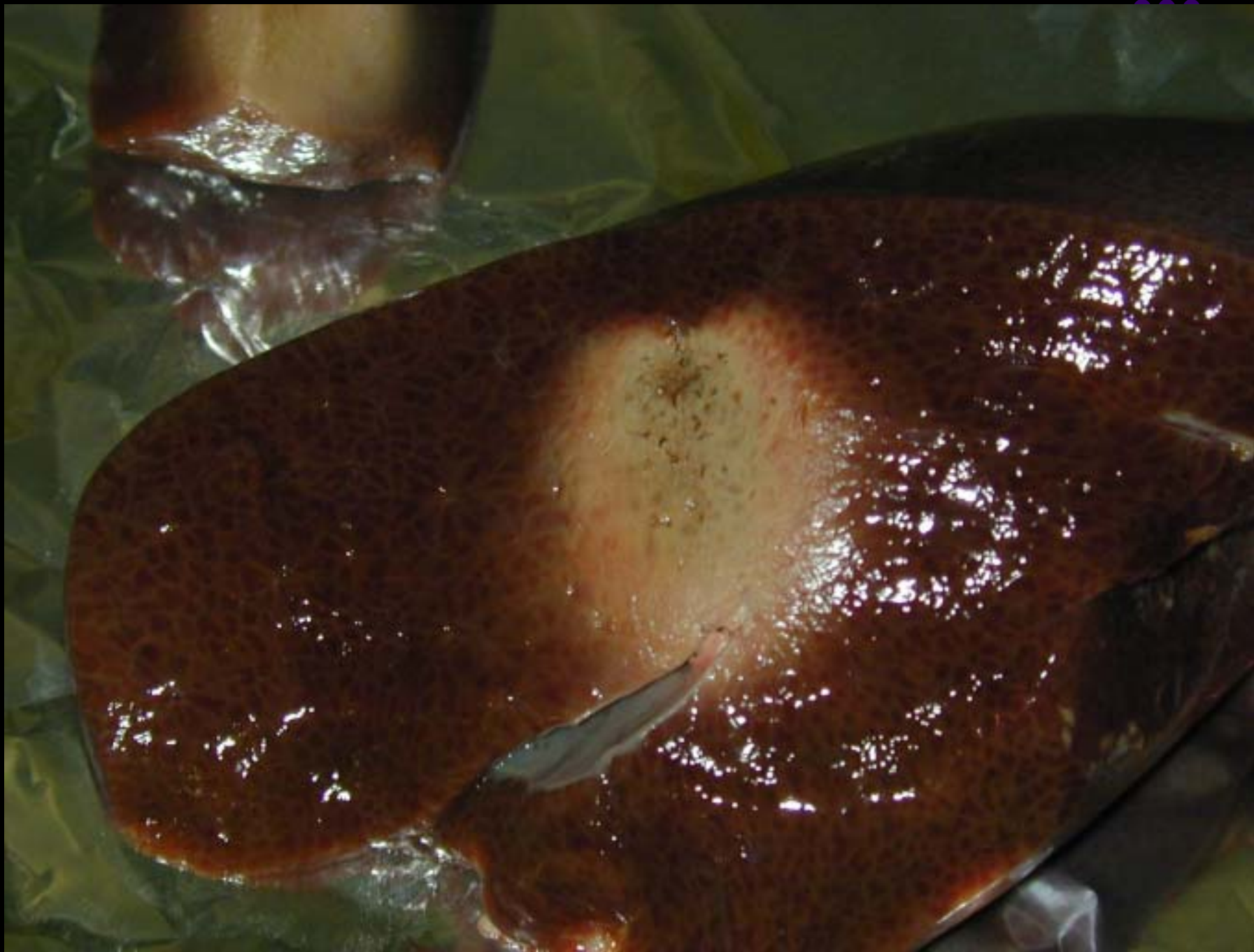
腫瘍を穿刺後先端を広げ焼灼する

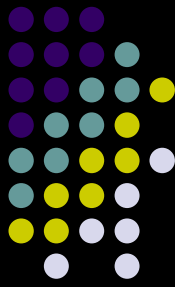
Boston Scientific



Radionics社 Cool-tip RF system

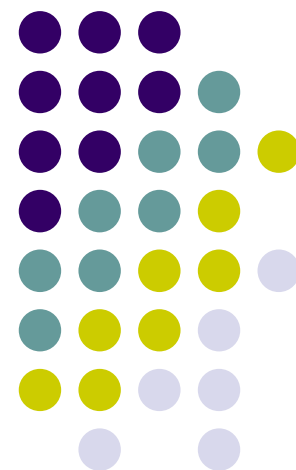




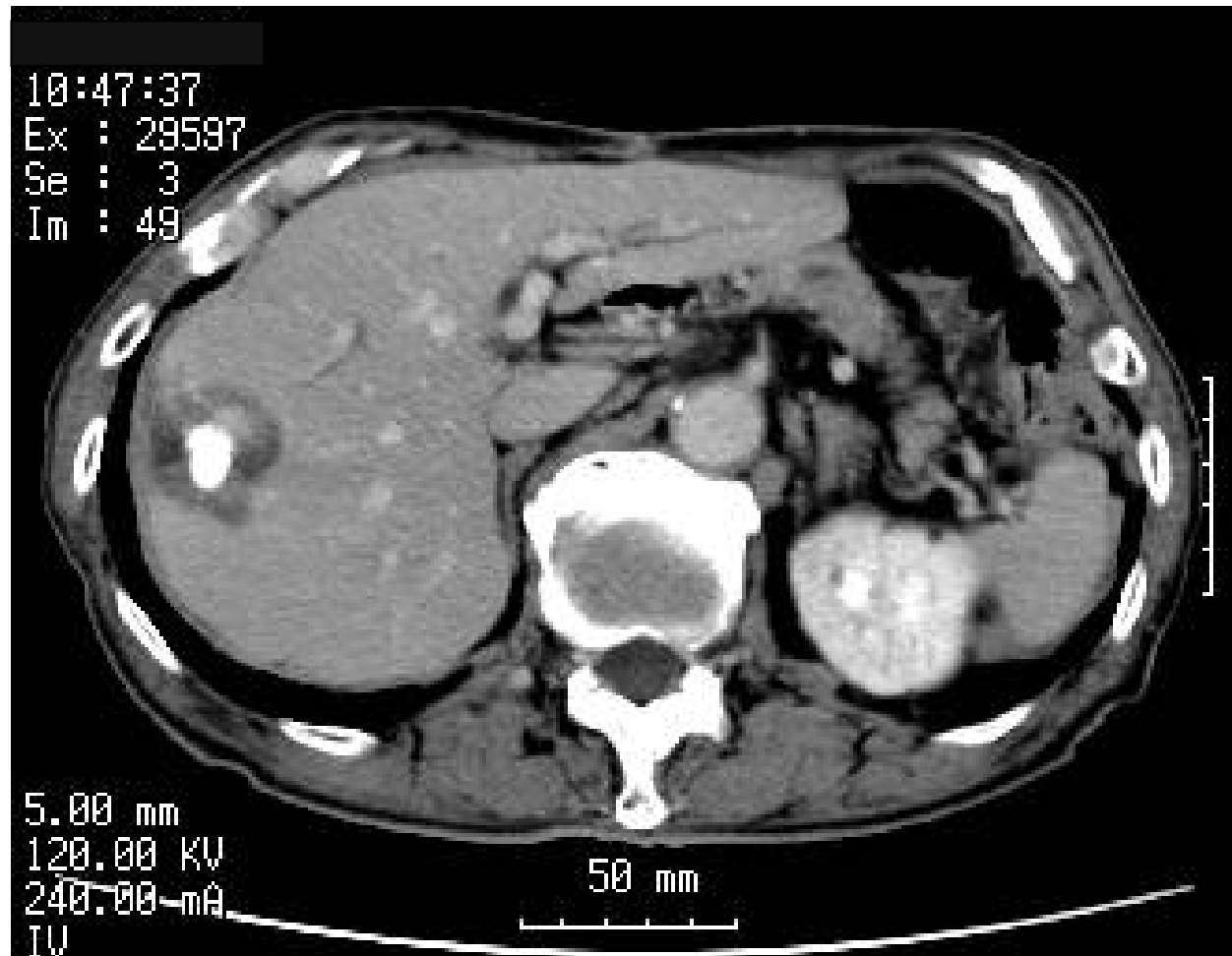


対象症例

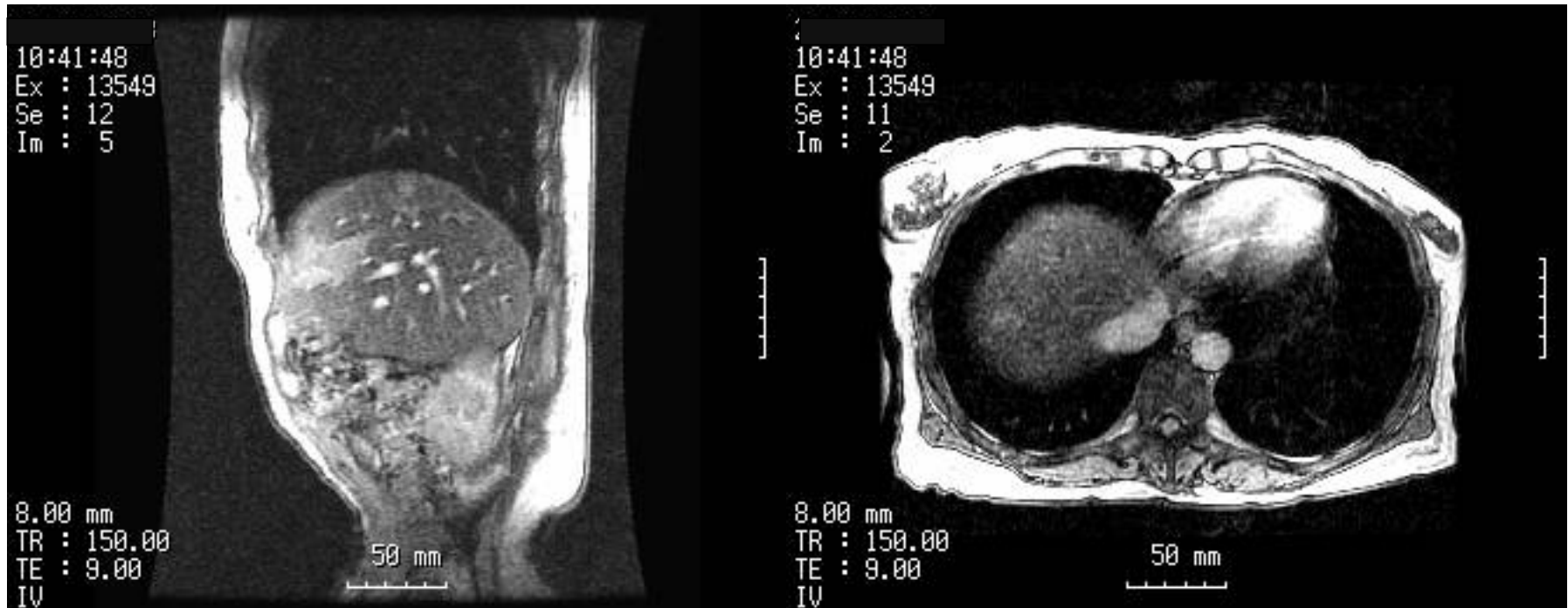
3 cm以下3個以下の肝癌



TAE+RFA



肝S8天頂部の腫瘍

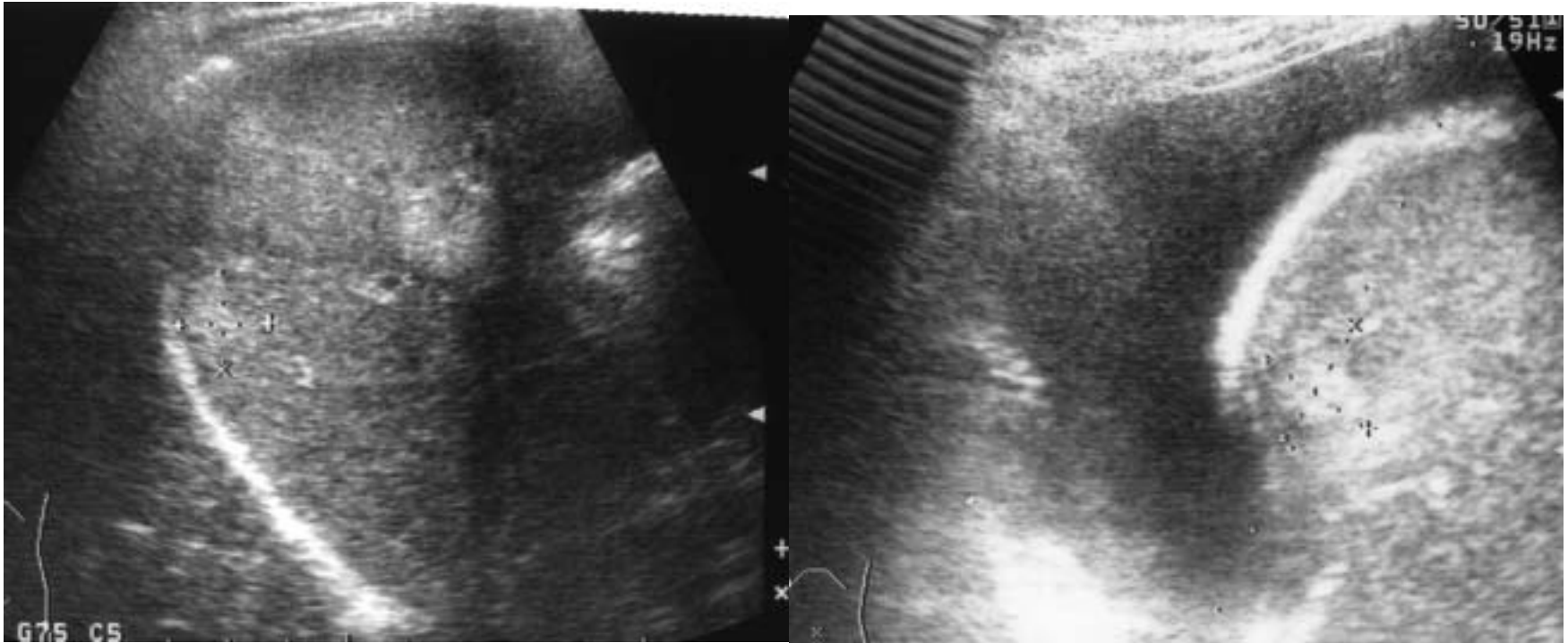


人工胸水作成前後



Pre

Post

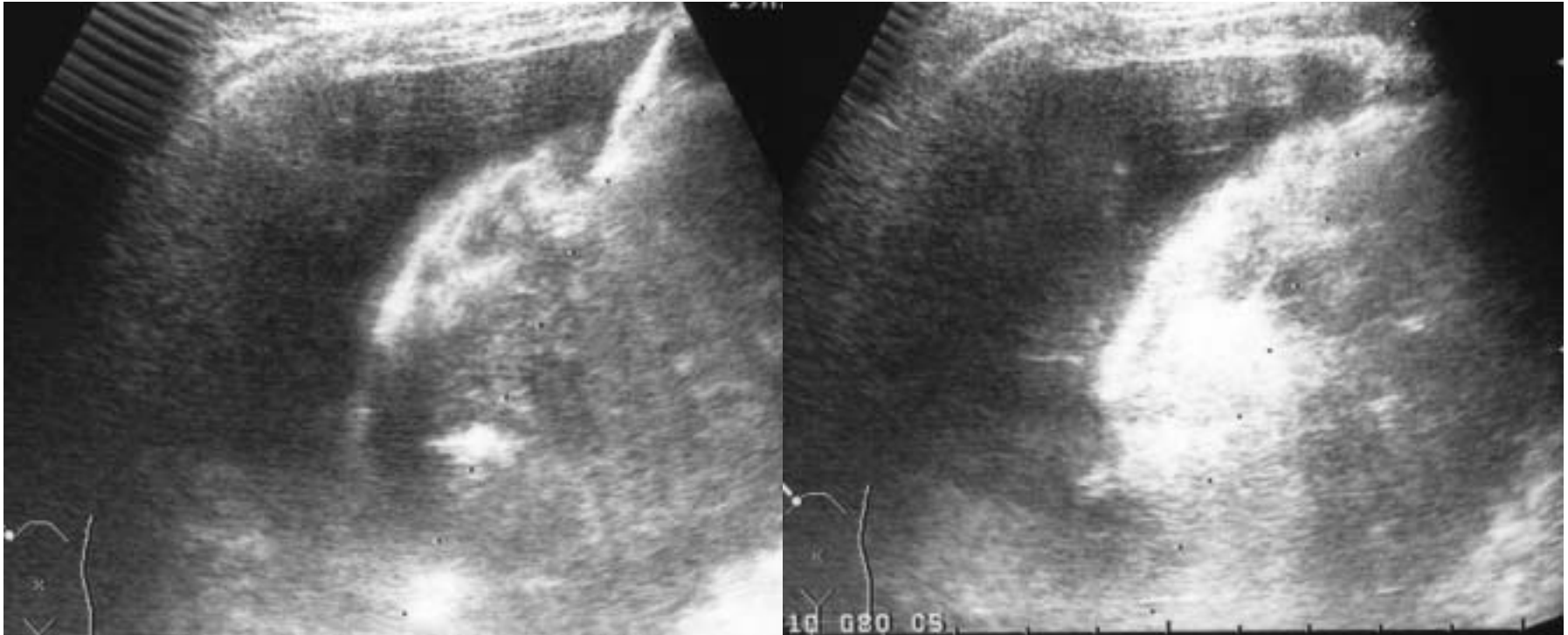


人工胸水作成RFA



Pre

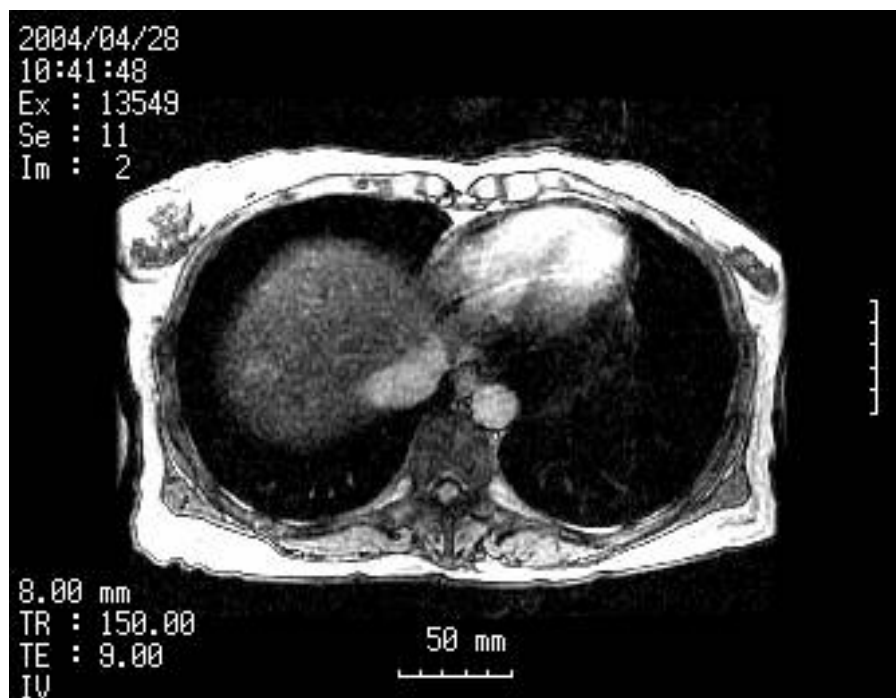
Post



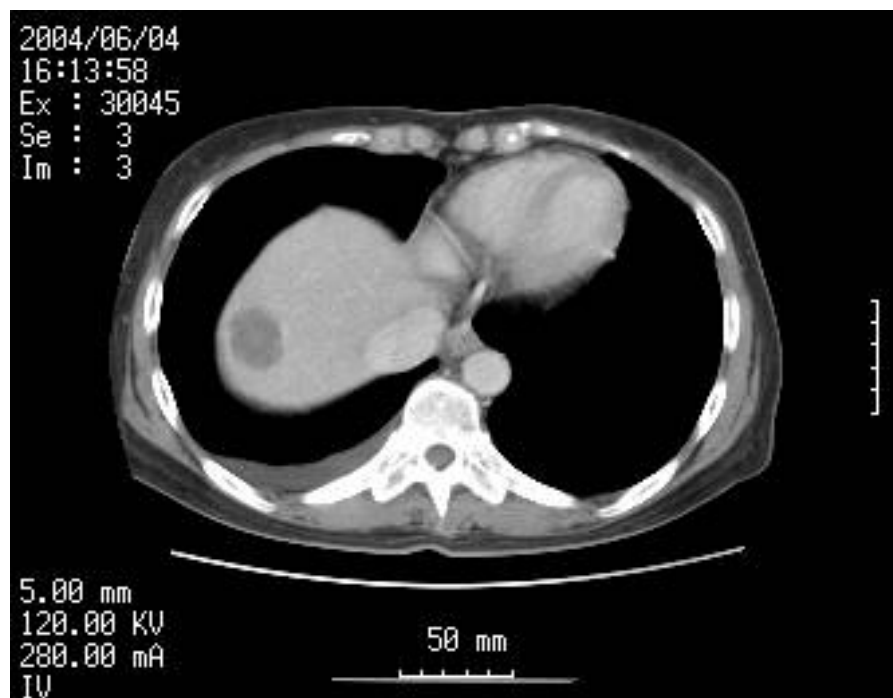
人工胸水作成RFA



Pre



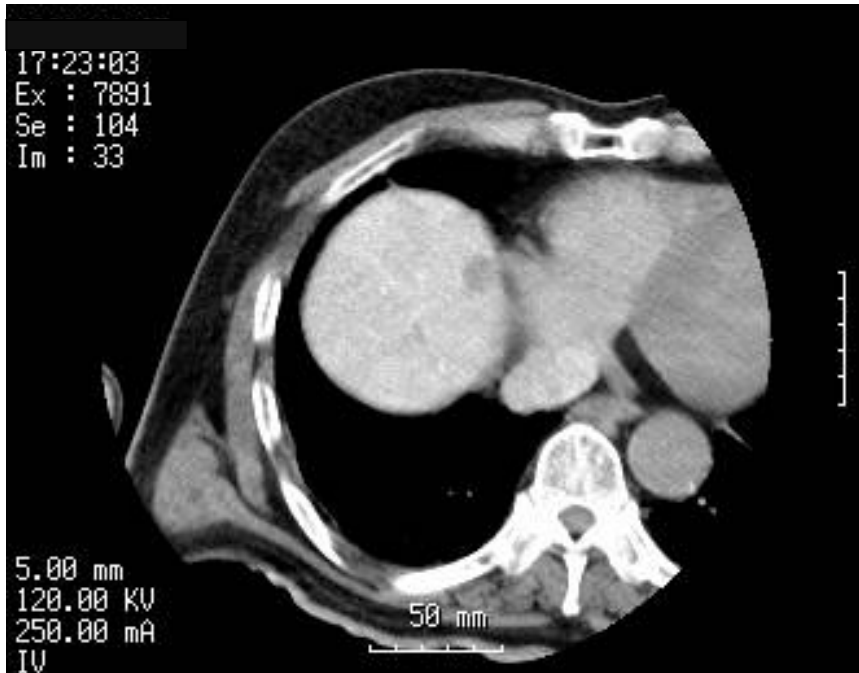
Post



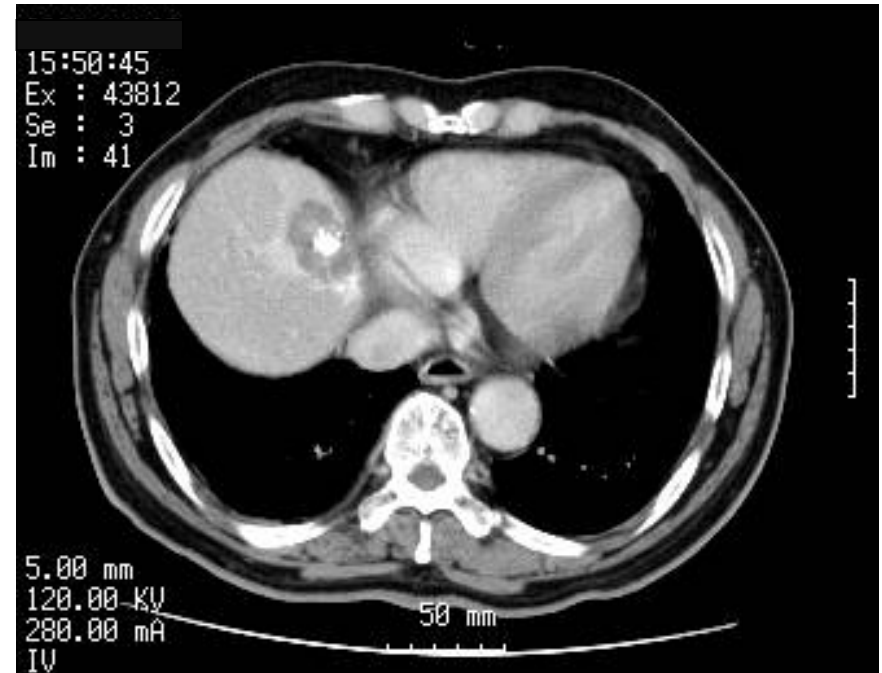


天頂部腫瘍

CTAP



post RFA

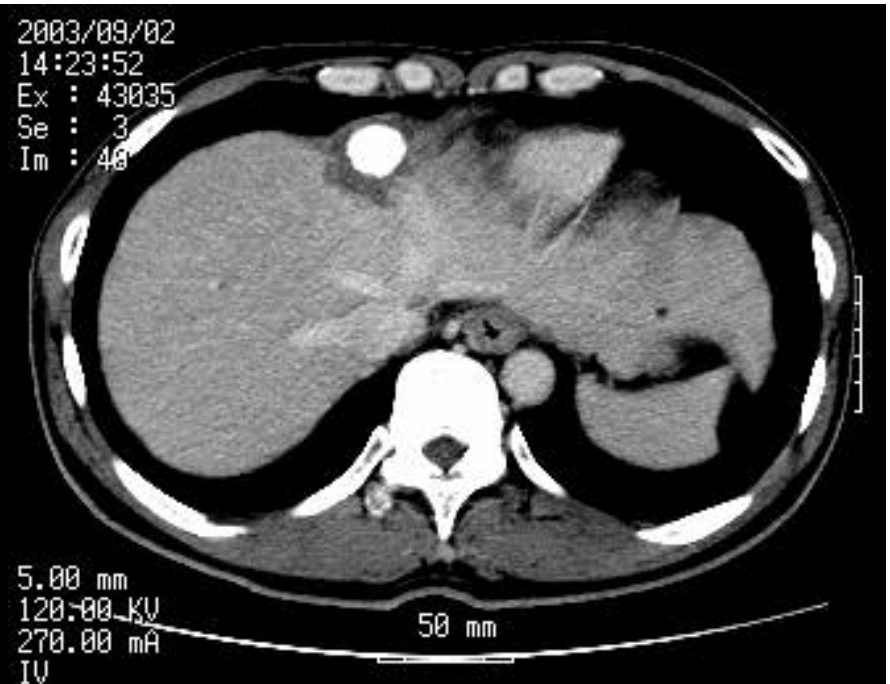
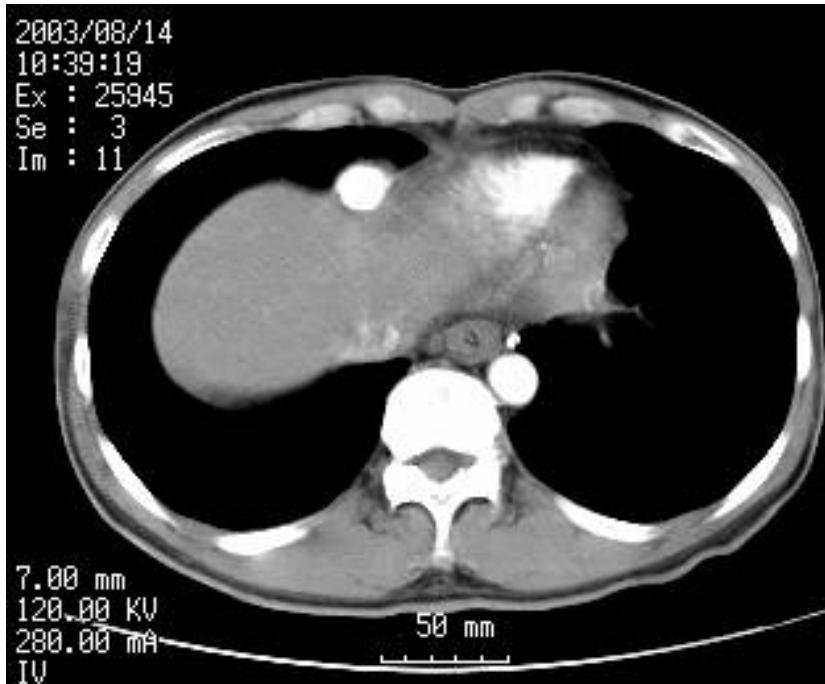




S4 humpした腫瘍

Pre

Post

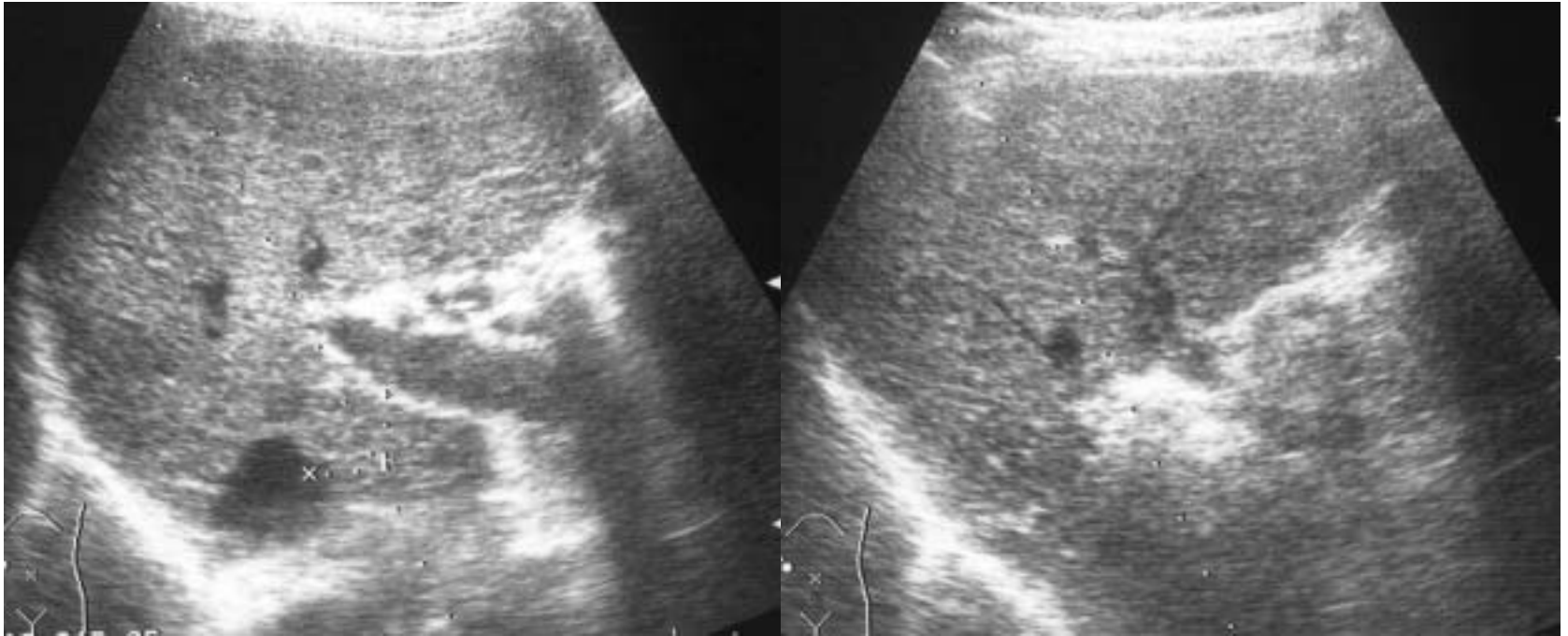


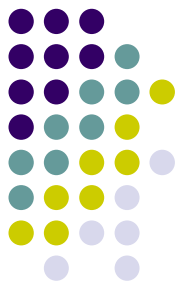


S1症例

Pre

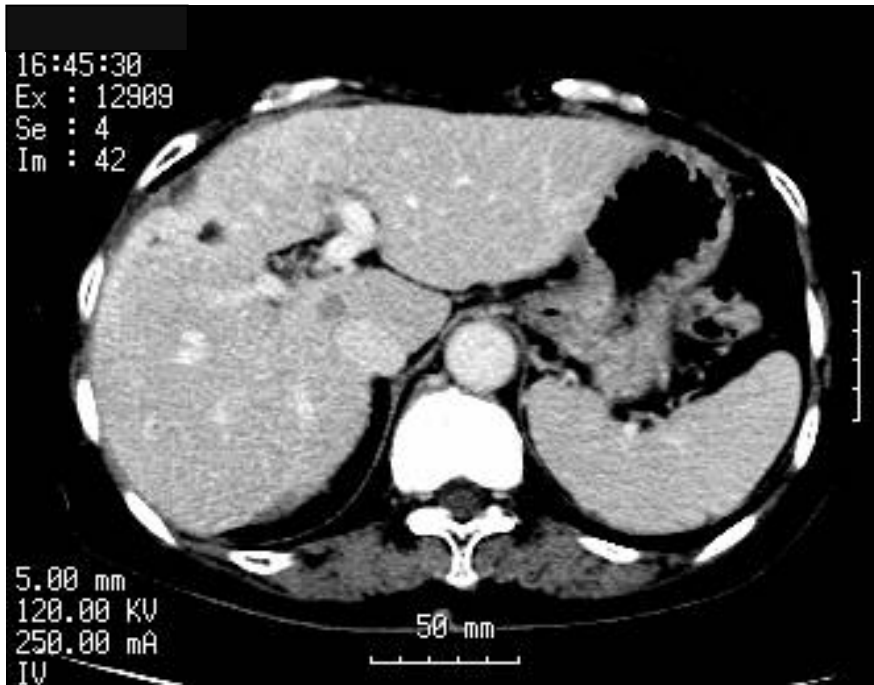
Post



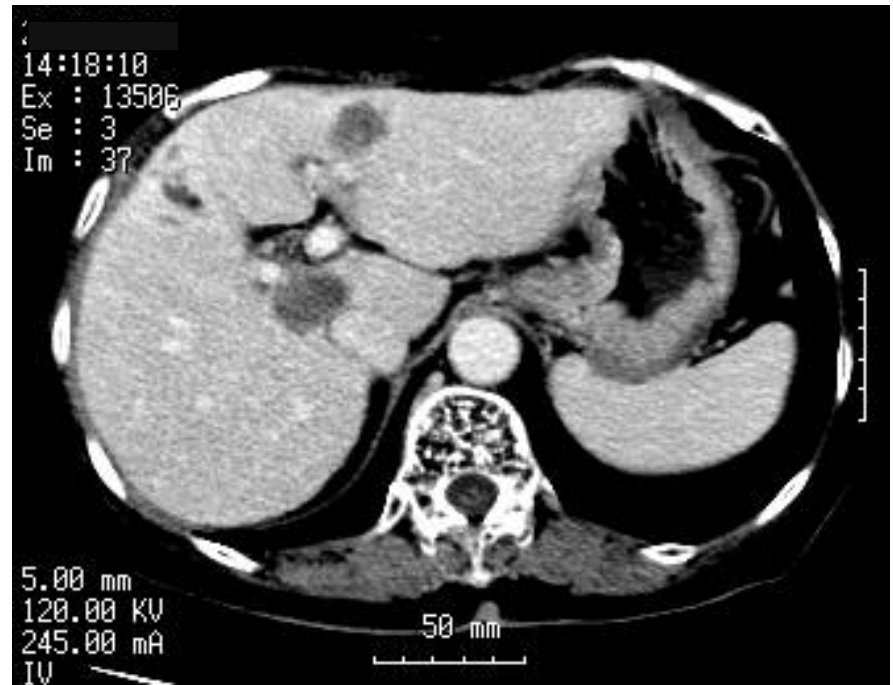


S1症例

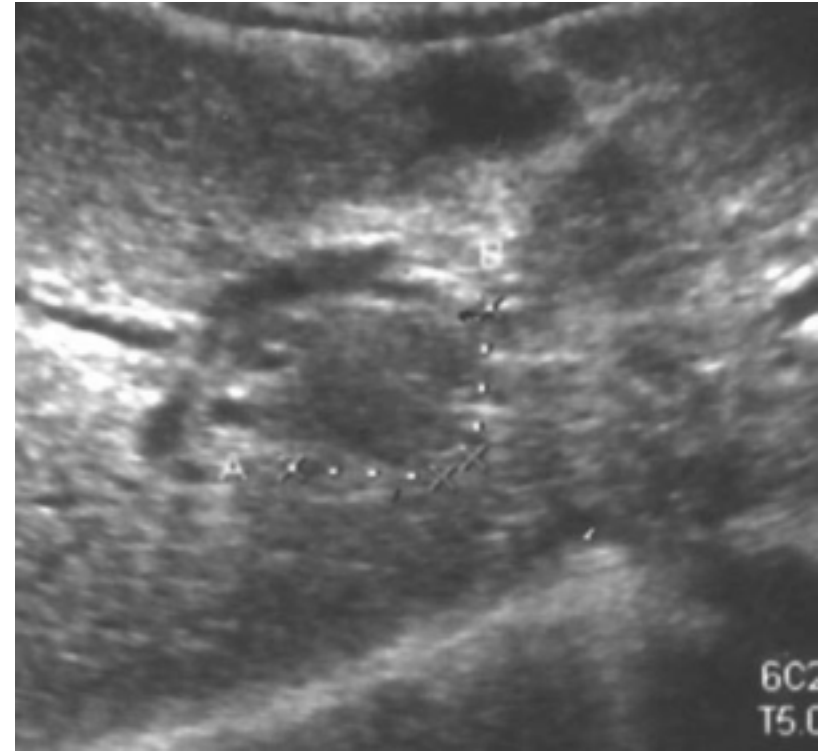
Pre



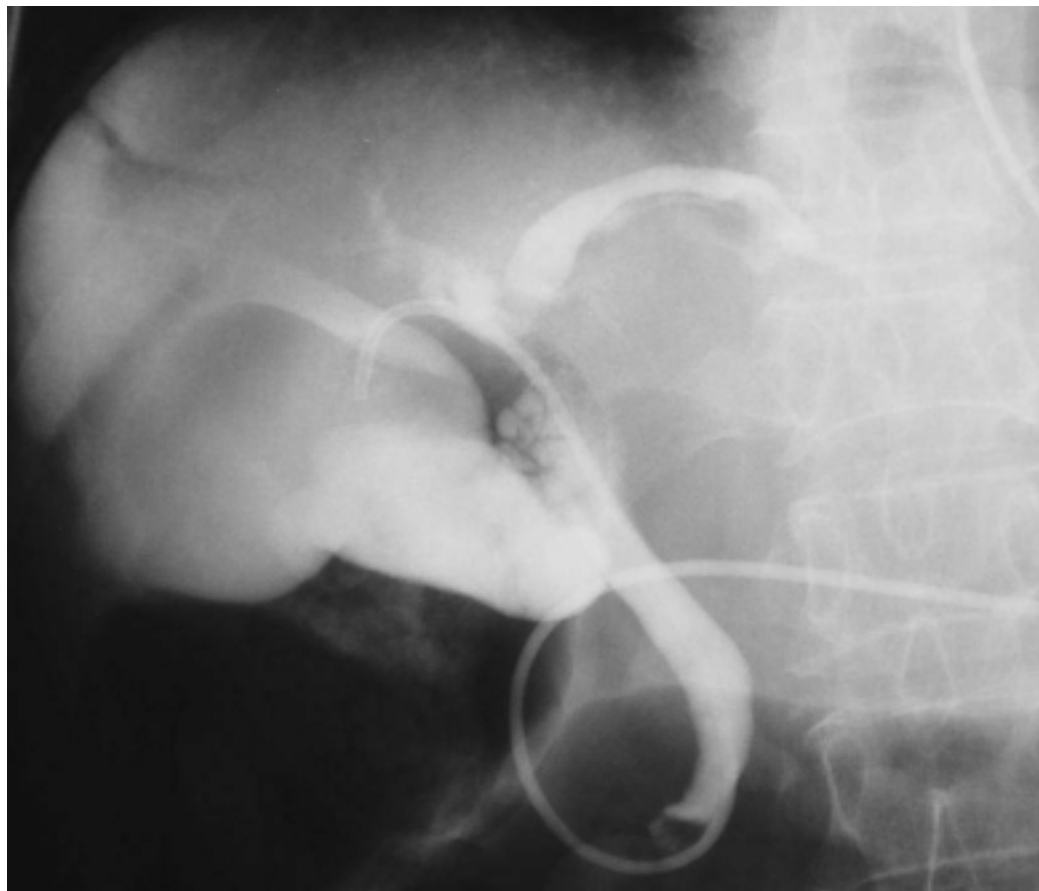
Post



大血管や胆管に近い症例



RFA前日にENBDチューブ挿入



人工胸水+ENBD+RFA



Pre



Post





経皮的RFAが難しい症例

- 胆嚢を腫瘍が圧迫している
- 腫瘍が腸管に接し癒着している
- 肺機能が悪く息止めができない
- 腫瘍がS1に存在
- 腫瘍がUSで見えない



バーチャルUS



バーチャルUS



バーチャルUSの手順

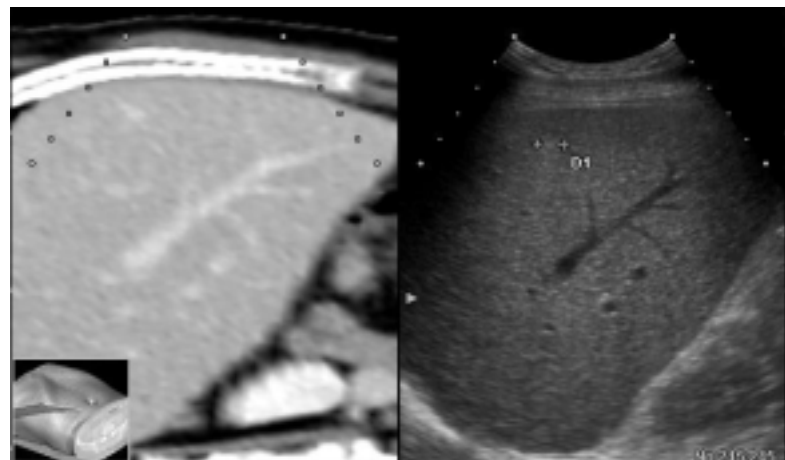


1) CT撮影 (MD-CT、3～5mm
スライス)

2) 画像情報の移行
(日立: EUB-8500)



3) 超音波画像とCT画像の
位置情報を同期。



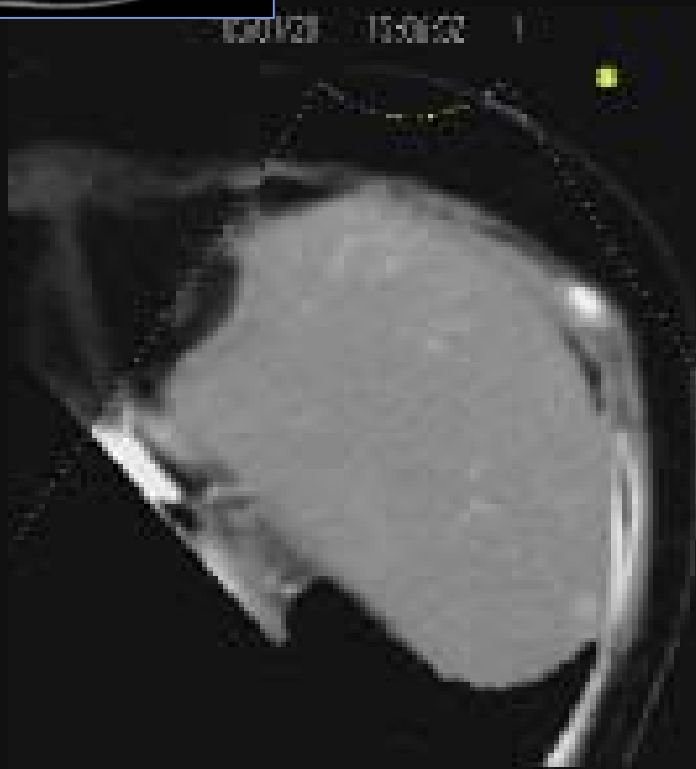
4) 検査開始

CT (動脈相)



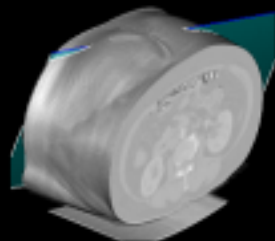
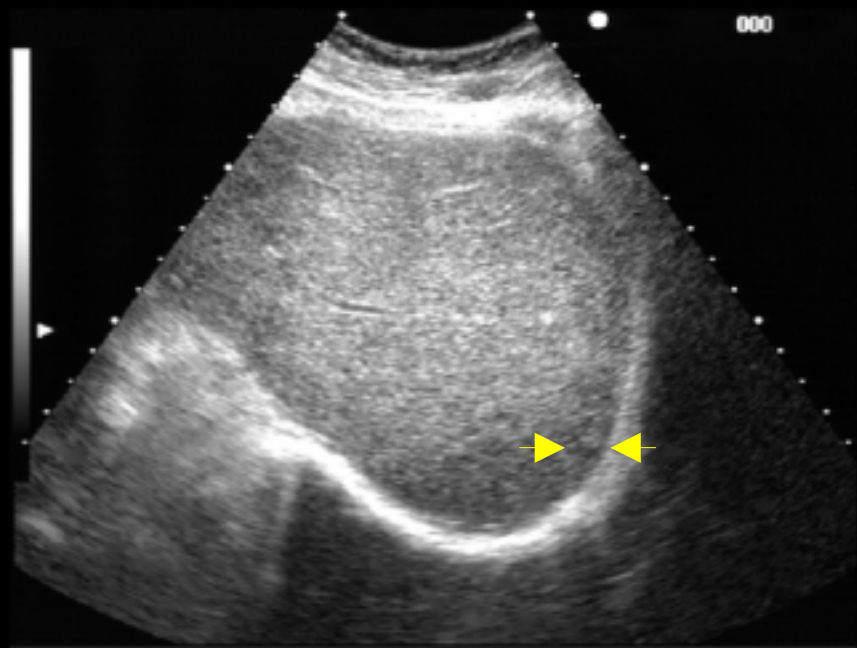
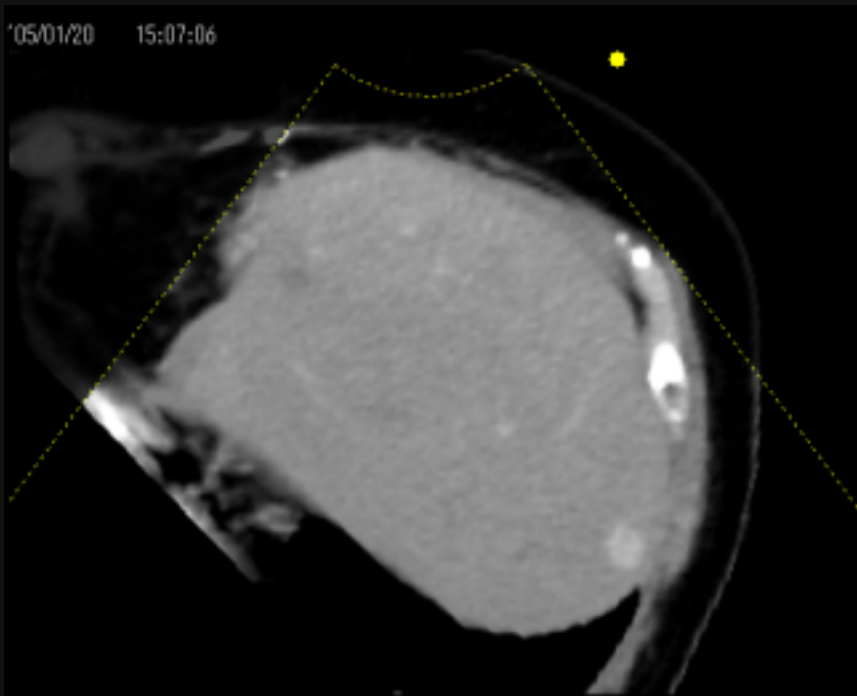


腫瘍1 バーチャルUS





腫瘍1





腫瘍2 バーチャルUS

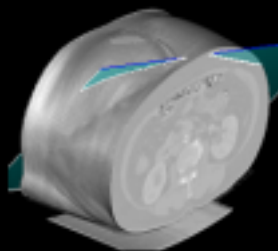
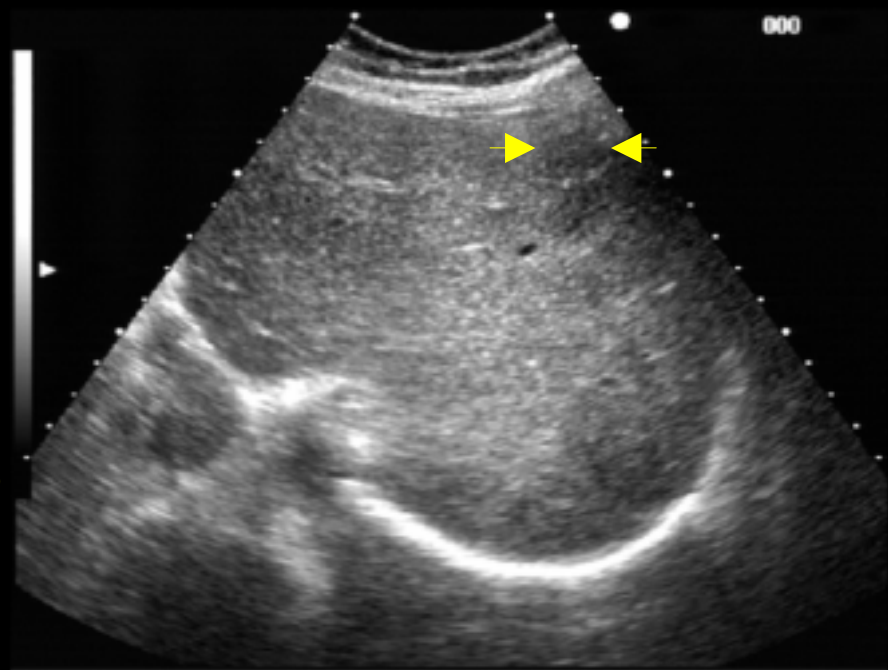
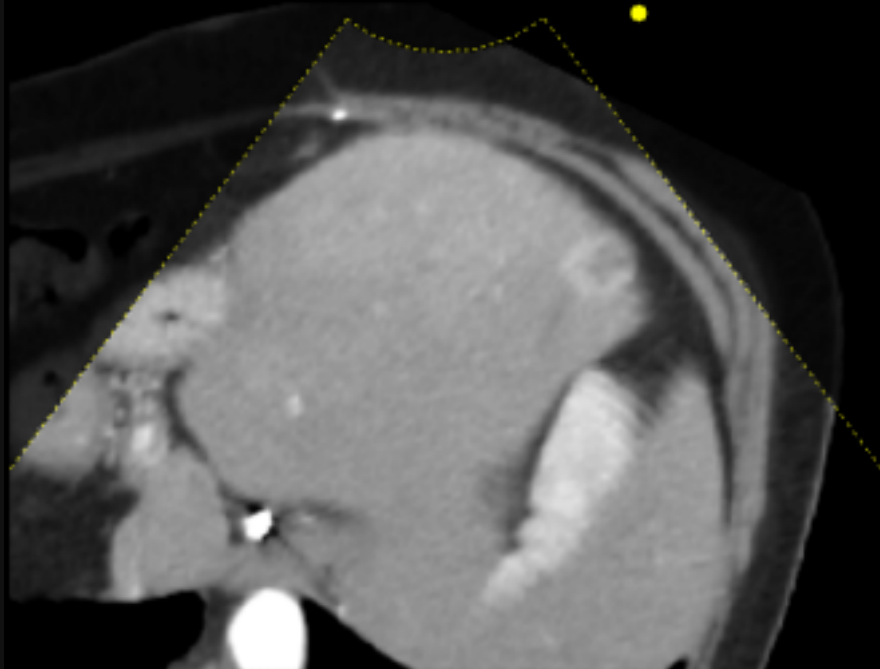




腫瘍2



05/01/20 14:42:21

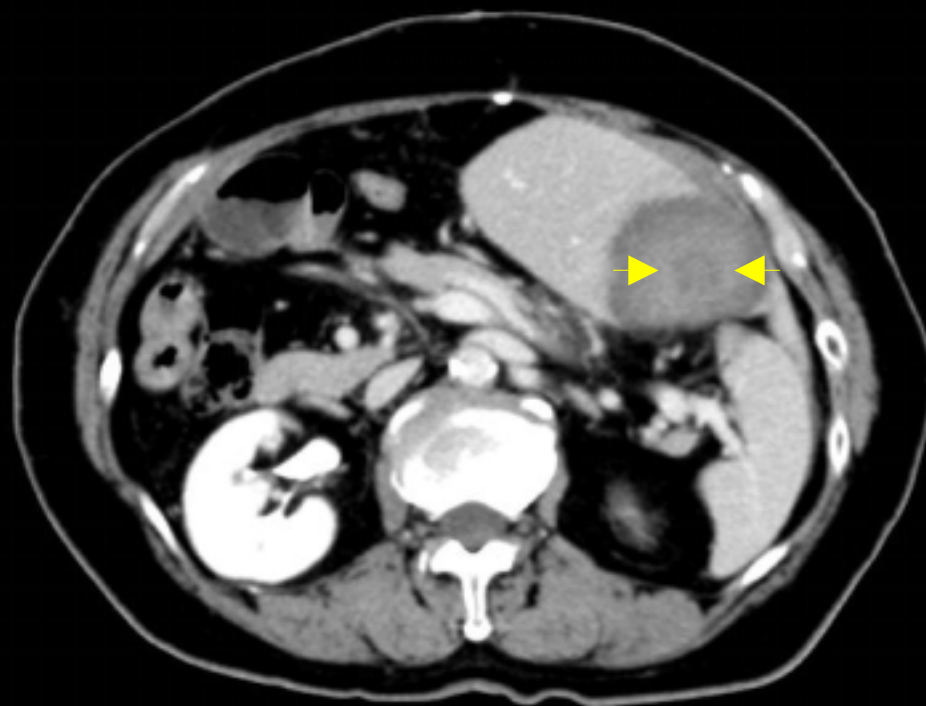
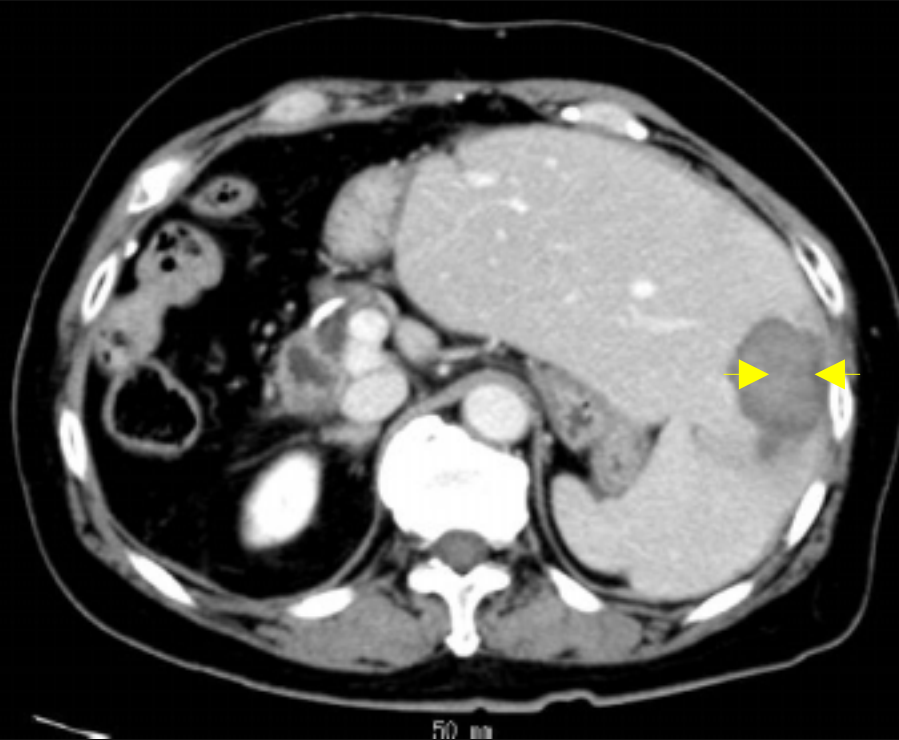




RFA後CT

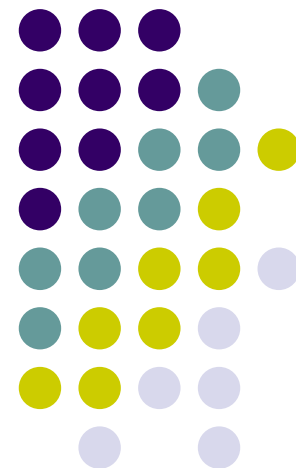
腫瘍1

腫瘍2



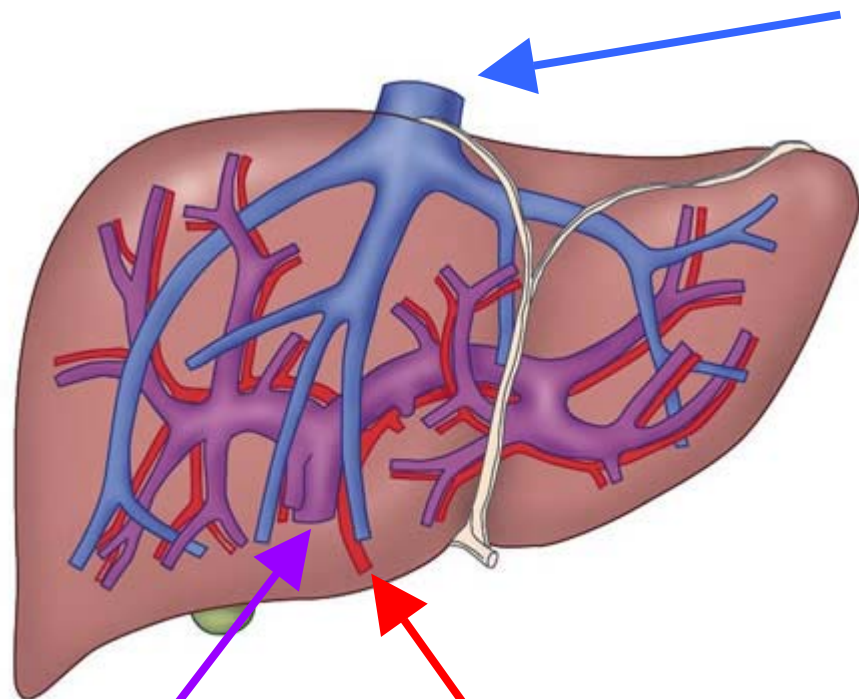
肝動脈塞栓療法

- 肝癌の栄養血管を塞栓する
- 癌細胞の兵糧攻め





肝静脈



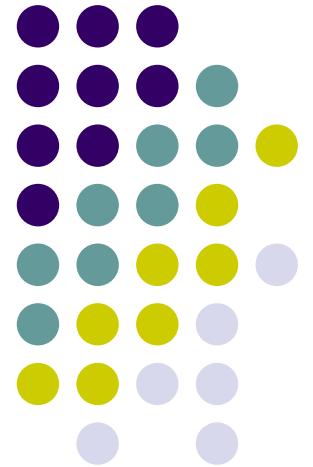
門脈

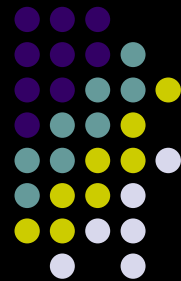
肝動脈



対象症例

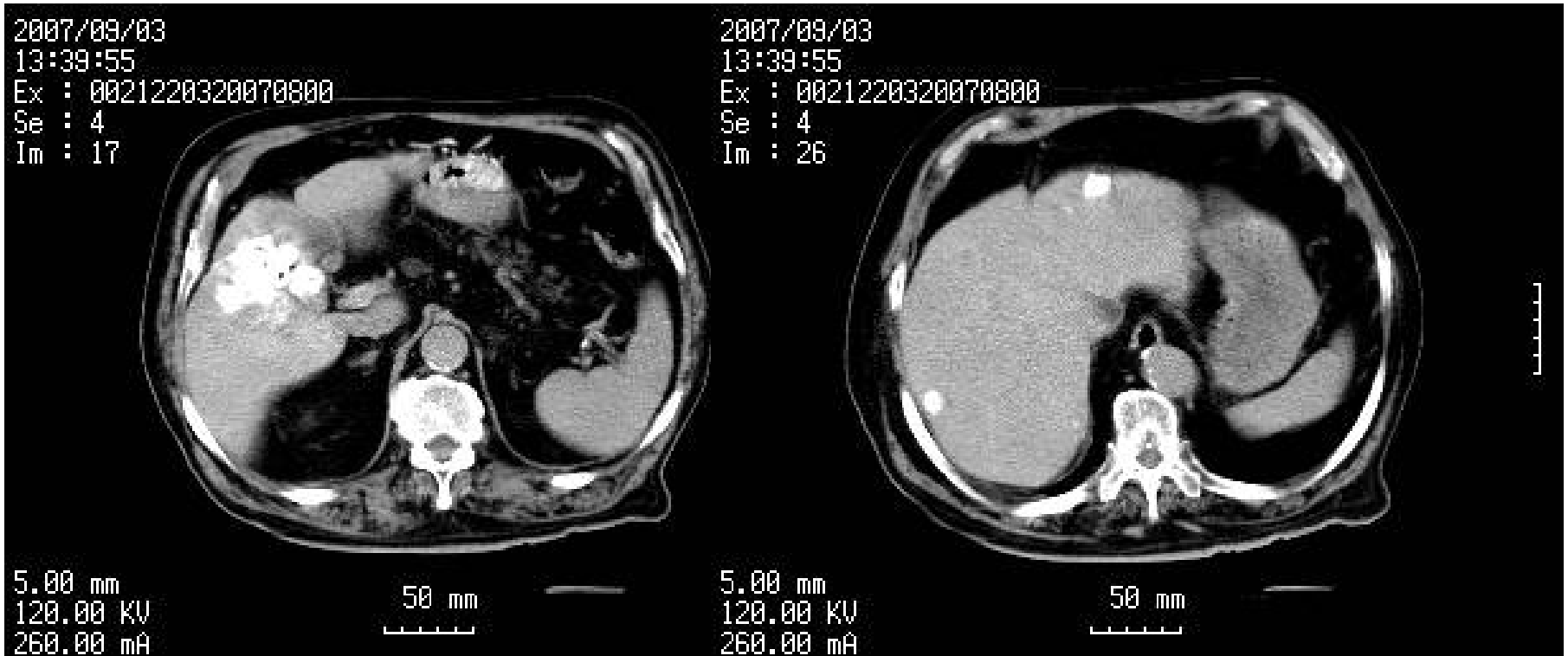
- 手術、局所療法の適応がない
- 門脈塞栓がない
- 単発、多発は問わない







Post TAE



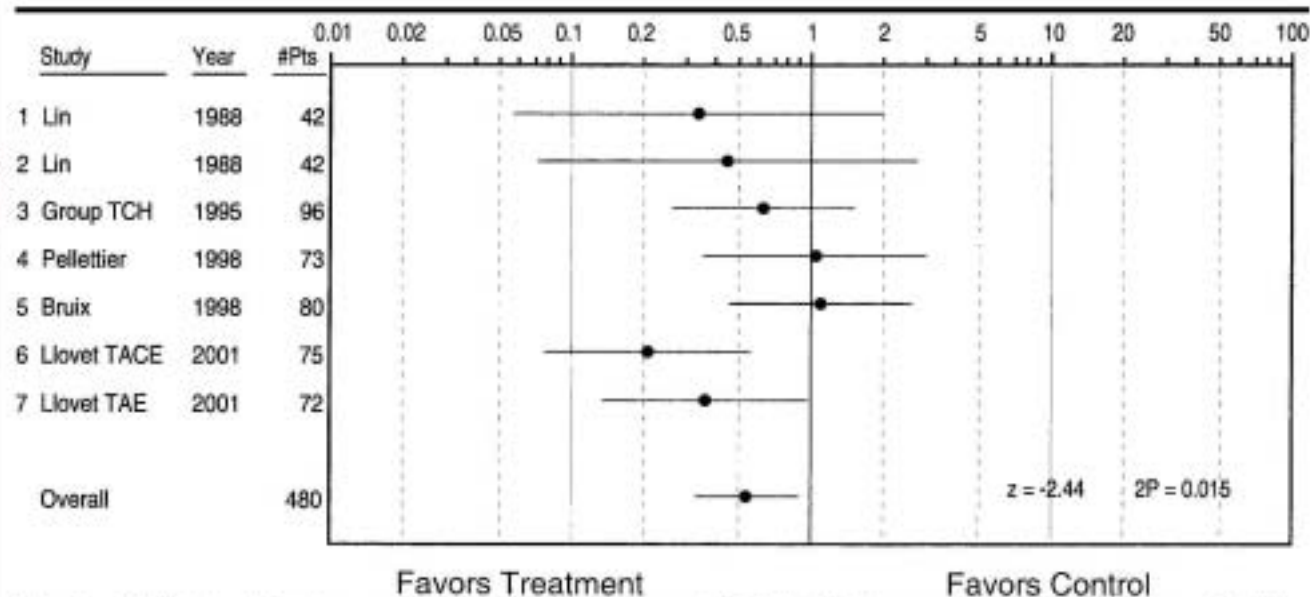
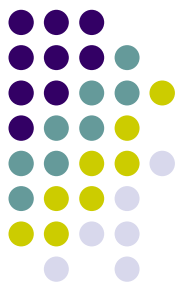


Figure 1. Plot illustrates findings from meta-analysis of the overall 2-year mortality in five RCTs (seven comparisons) in which chemoembolization was performed for unresectable HCC. The bold vertical line represents the equivalence line (odds ratio of 1) between chemoembolization and nonactive treatment. Odds ratios of less than 1 (to the left of the equivalence line) favor chemoembolization, and odds ratios of greater than 1 (to the right of the equivalence line) favor nonactive treatment. When the error bar does not cross the equivalence line, a significant difference exists between treatment and control groups. Data are shown on a logarithmic scale. ● = the odds ratio for each trial and the overall estimate. The error bars represent the 95% CIs of each estimate. *Lin* refers to Lin et al (7), *Group TCH* refers to Groupe d'Étude et de Traitement du Carcinome Hépatocellulaire (12), *Pelletier* refers to Pellettier et al (13), *Bruix* refers to Bruix et al (14), and *Llovet TACE* and *Llovet TAE* refer to Llovet et al (43). #Pts = number of patients.



肝癌の化学療法

- Low dose FP療法 (5FU+CDDP)
- Low dose FP+IFN療法

(IFN+5FU+CDDP)
↓

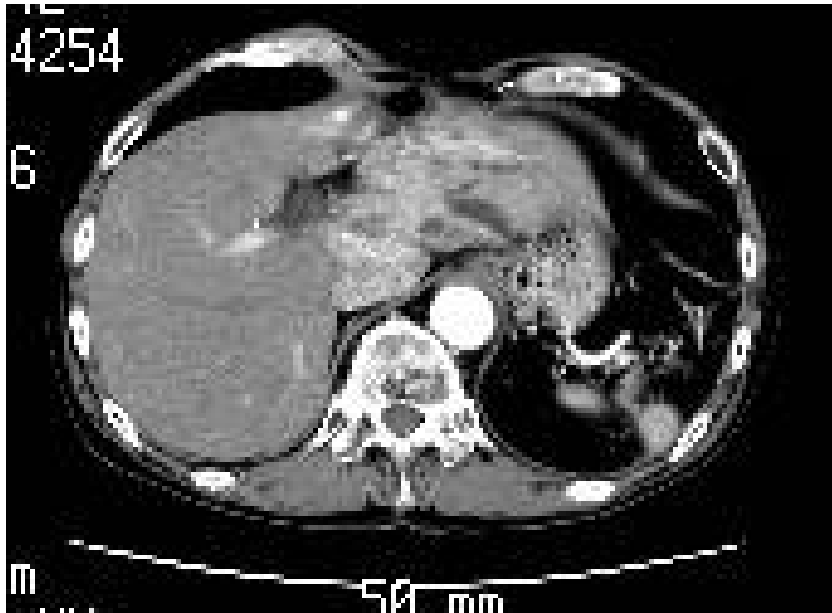
持続動注

- TS-1+IFN

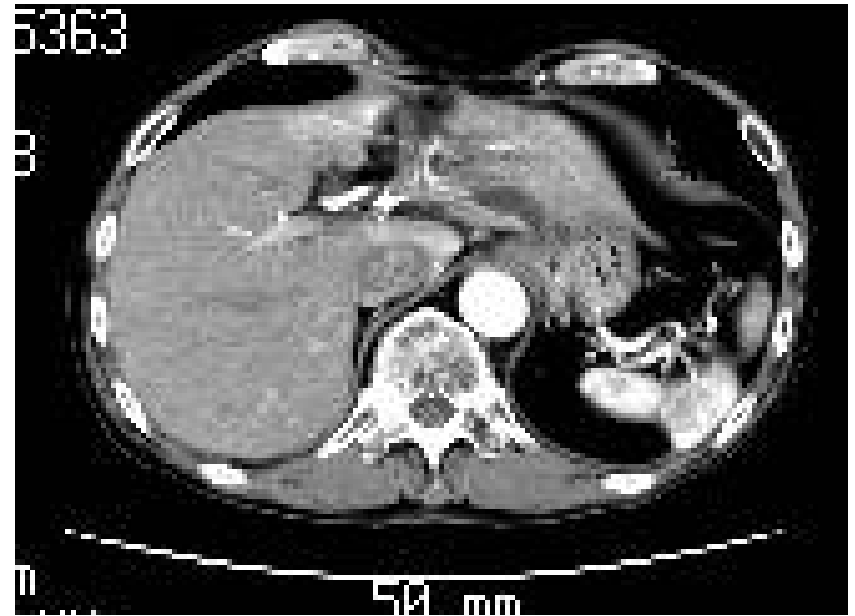
5FU+CDDP+IFN



pre



post





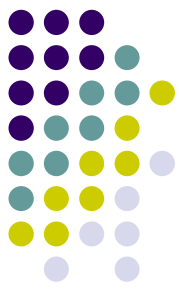
肝臓の内科的治療

- 治療
- 再発予防

局所療法後の再発予防



- インターフェロン (Shiratoriら、Ann Int Med 2003)



Interferon

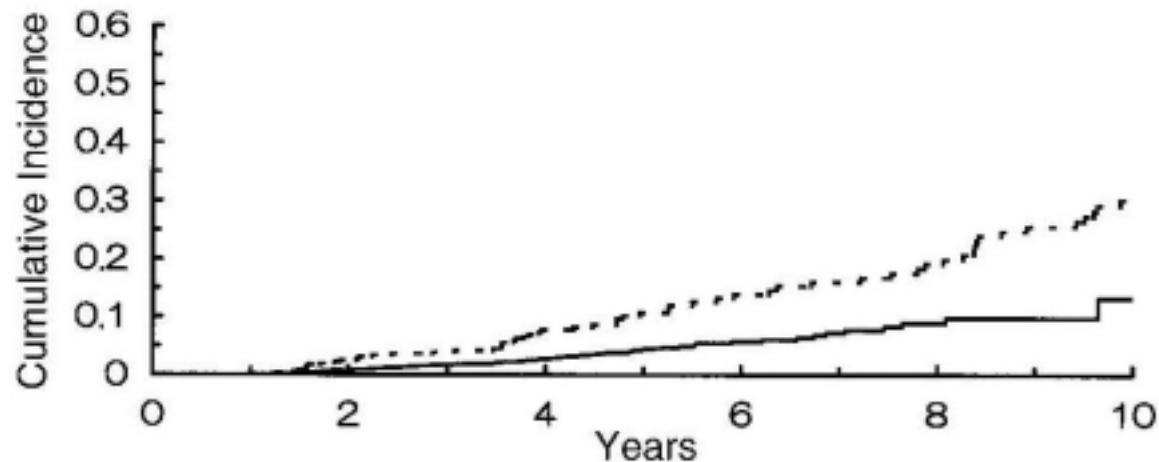
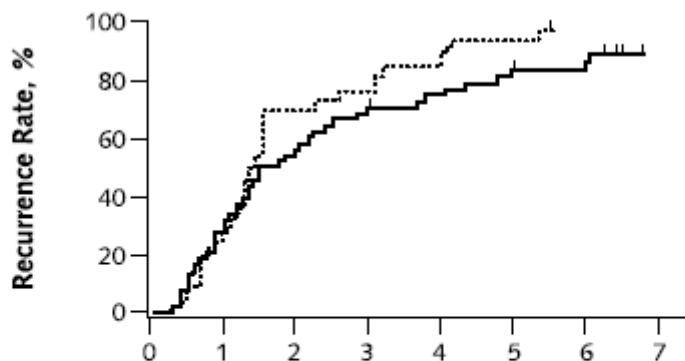


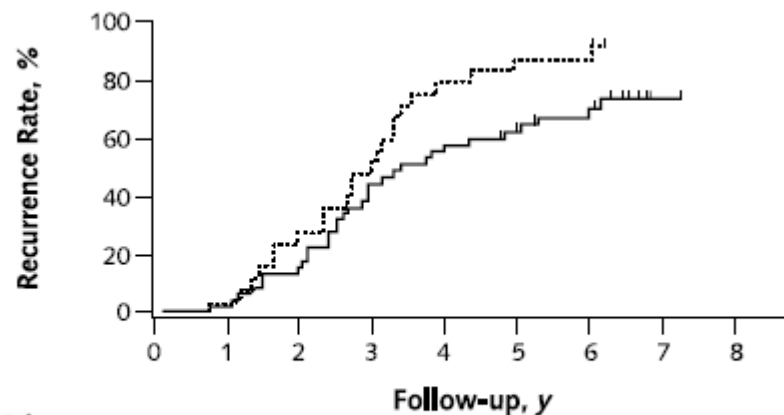
Figure 2. Cumulative incidence of hepatocellular carcinoma (HCC) among patients treated with interferon (*solid line*) and untreated patients (*dotted line*). $P < 0.001$ by the log-rank test. The number of hepatocellular carcinoma events and patients at risk at each time point are shown below the graph.

Interferon



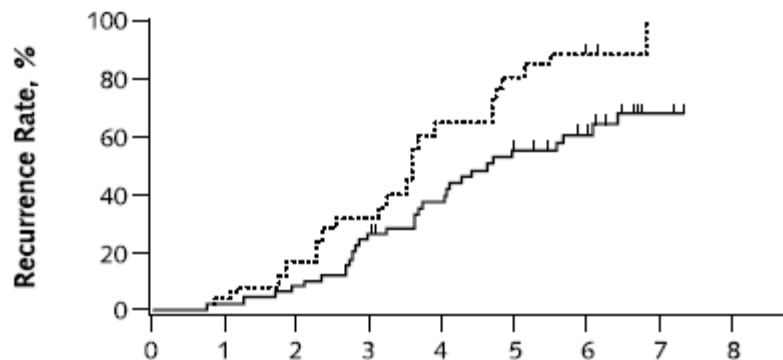
Patients at risk, *n*
Treated with IFN
Untreated

49	37	15	9	7
25	19	6	2	



Patients at risk, *n*
Treated with IFN
Untreated

49	48	27	16	11	2
25	24	12	3	3	



Patients at risk, *n*
Treated with IFN
Untreated

49	48	37	21	14	3
25	24	17	5	3	

First rec.

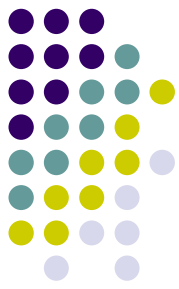
Second rec.

Third rec.

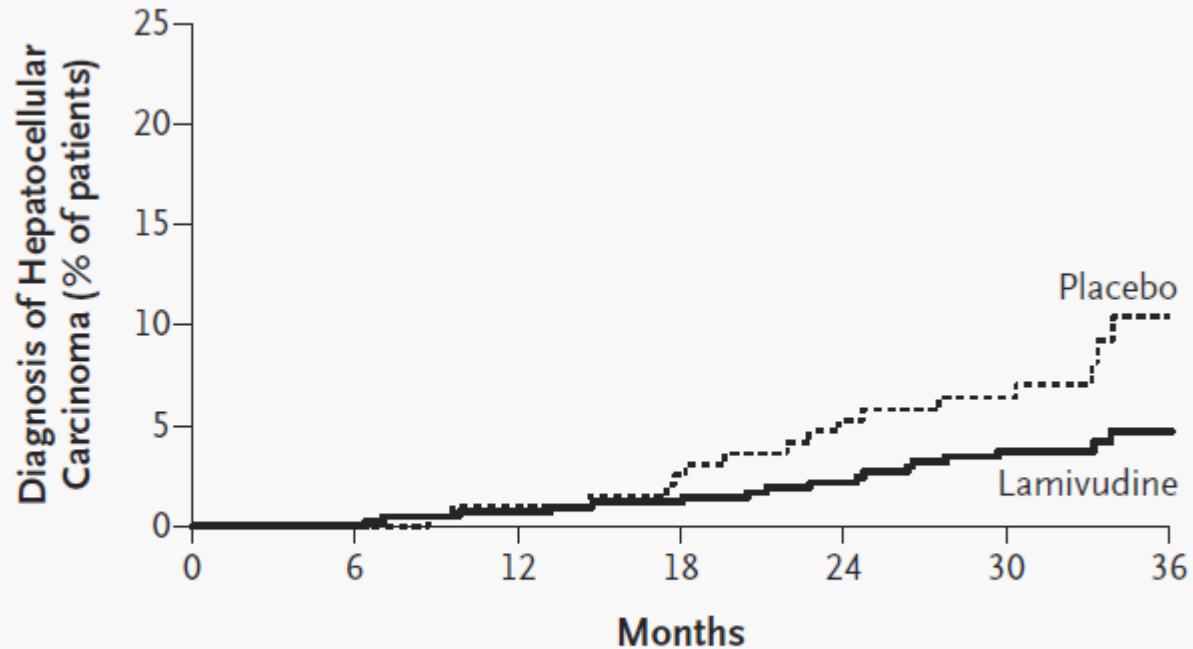
局所療法後の再発予防



- インターフェロン (Shiratoriら、Ann Int Med 2003)
- ラミブジン (Liao ら NEJM 2004)



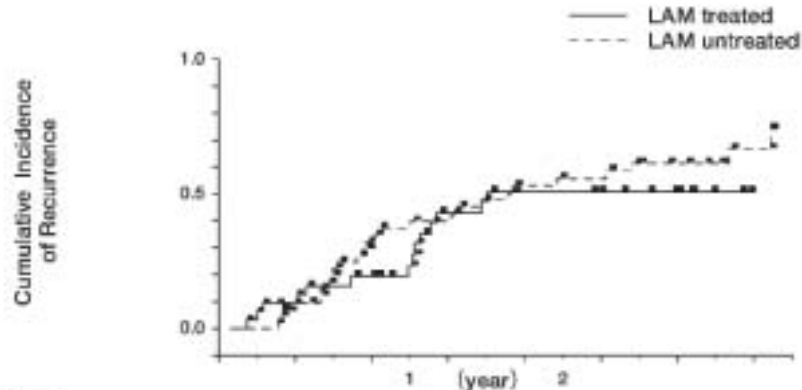
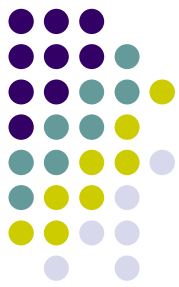
Lamivudine



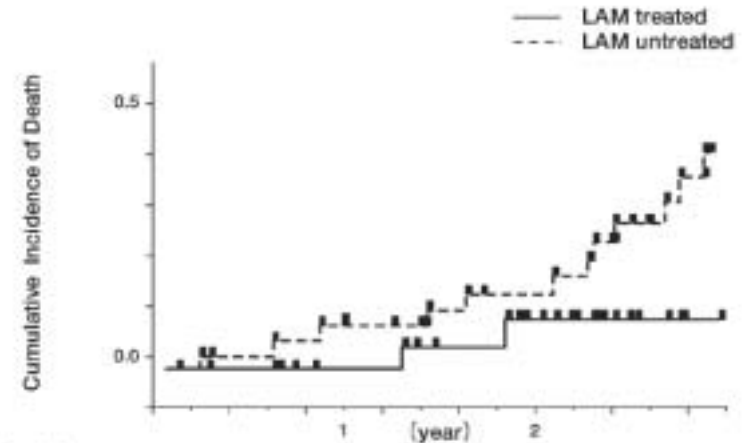
No. at Risk

Placebo	215	209	198	184	173	153	43
Lamivudine	436	429	417	400	385	347	122

Lamivudine



Treated		0	3	5	6	7	12	14	14	14	14	14	14	14
Patients with recurrence		0	3	5	6	7	12	14	14	14	14	14	14	14
Patients at risk		30	30	29	26	25	25	23	22	21	15	9	5	2
Untreated		0	0	5	12	16	17	19	21	22	24	24	24	26
Patients with recurrence		0	0	5	12	16	17	19	21	22	24	24	24	26
Patients at risk		40	40	39	38	37	36	35	32	30	28	26	19	15



Treated		0	0	0	0	0	1	1	2	2	2	2	2	2
Patients died		0	0	0	0	0	1	1	2	2	2	2	2	2
Patients at risk		30	30	29	28	25	25	23	22	21	15	9	5	2
Untreated		0	0	1	1	3	3	3	5	5	6	8	9	12
Patients died		0	0	1	1	3	3	3	5	5	6	8	9	12
Patients at risk		40	40	39	38	37	36	35	32	30	28	26	19	15

局所療法後の再発予防



- **インターフェロン** (Shiratoriら、Ann Int Med 2003)
- **ラミブジン** (Fujiokaら、Acta Med Okayama 2005)
- **エンテカビル (臨床研究)**
- **キョウミノ**
- **非環式レチノイド (全国治験)**

肝臓診療は進化している

内科肝臓スタッフ



荒木康之
能祖一裕
白神邦浩
植松周二
岡本良一
岩堂昭太

