

zation, TOCE) (Transarterial oily chemoembolization, TOCE) (Transarterial embolization, TAE) 가

20) : TOCE 42 TOCE (n = 22) TAE (n = 20) (2 - 10 mg) (3 - 10 cc), (20 - 50 mg), TAE Kaplan -

Meier Cox (Cox's proportional hazard regression model) , TOCE TAE : 41 , TOCE TAE 201 246 (p > 0.05). TOCE 5 (22.7%), TGE 3 (15%) TOCE 가

2.9% - 14.5% (1 - 3). 42 (Trans-arterial oily chemoembolization; TOCE) (Transarterial Gelfoam embolization; TGE) (2).

44% - 73% (3 - 5). Hsieh (5) (Transcatheter hepatic arterial embolization) 82% 5 56 가 (6 - 9). (Initial hemostasis) 3 - 5 42

55.8

9

, 6

B

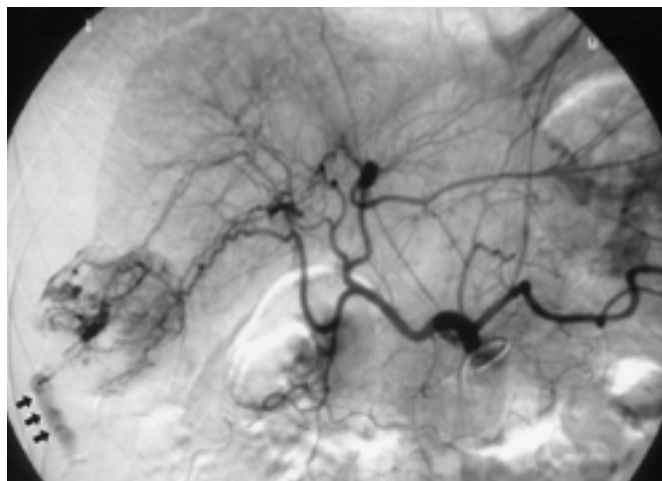
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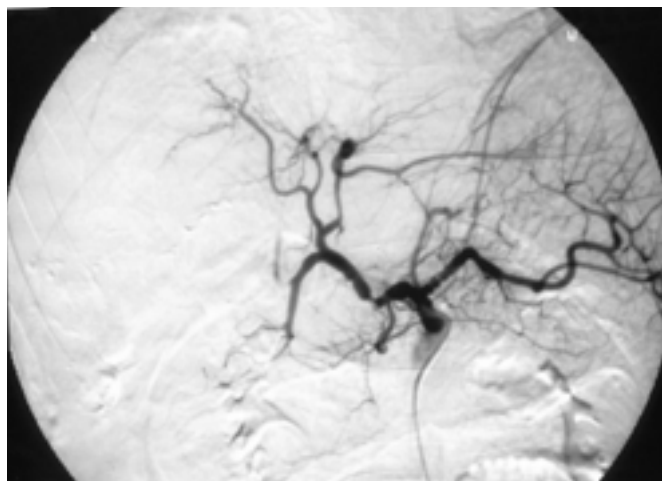
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A



B



C



D



E

Fig. 1. A 73-year-old man had sudden onset of severe abdominal pain with shock and hemoperitoneum.

A. Celiac arteriogram shows extravasation of contrast material (arrows) from a hypervascular tumor supplied by branches of the right hepatic artery.

B. Arterial portogram shows patent main portal vein and its bifurcation.

C. Celiac arteriogram after embolization using gelfoam shows complete obliteration of tumor vessels and no further bleeding.

D. Axial CT scan obtained at the time of presentation reveals nodular hepatocellular carcinoma that occurred in cirrhotic liver.

E. Axial CT scan obtained 2 months after embolization reveals necrotic portion (open arrows) and viable portion (arrows) of the tumor. Wedge resection was done.

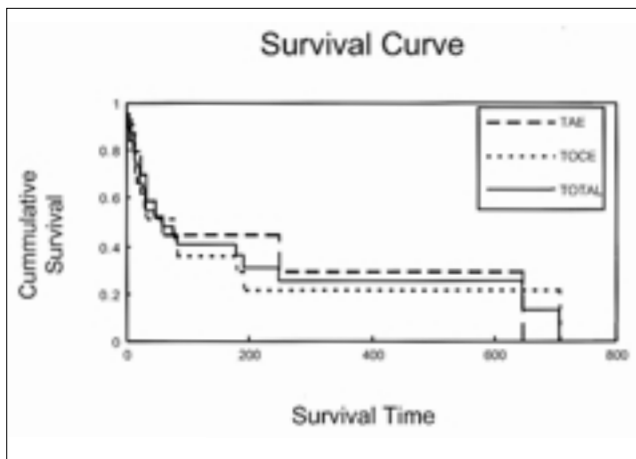


Fig. 2. Comparison of survival between the TOCE group and the TGE group. The 1-month, 3-months, and 1-year survival rates were 51%, 37%, and 21% in the former group and 59%, 41%, and 26% in the latter group, respectively. Difference between the survival curves for these two groups did not reach statistical significance ($p > 0.05$).

Table 3. Multivariate Analysis of Prognostic Factors

Factors	b	Standard Error	P
Portal vein thrombosis	1.154	0.578	<.005
Previous diagnosis of H.C.C	1.288	0.604	<.005
Child-Purh grade	0.530	0.201	0.467
Symptom duration before the embolization	0.342	0.136	0.853
AFP	0.012	0.120	0.912
Age	0.541	0.245	0.462

Note. - Data analyzed by means of the Cox proportional hazard model. b = coefficient.

가 , 14
 , 5
 , 9
 3 (Fig. 1), 29
(hypervascular tumor staining)
 14
(segmental branch) , 26
 , 2
 . 3
 가
 3Fr , 22
 20
 1
 가
 . 1
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 41 1
 1 , 3
 , 12 가 1
 , 8
 , 5
 8 (2
 2 , 2
 . 2

가
 가
 ,
 가
 (p < 0.05),
 TGE
 , Stage IV
 TOCE
 가 (p = 0.09, P = 0.08).
 TOCE TGE Kaplan - Meier
 method (Fig. 2). TOCE 1 , 3 ,
 1 51%, 37%, 21% , TGE
 59%, 45%, 30%
 201.2 , TGE 244.5
 (p < 0.05).
 가 16
 (univariate
 analysis) log - rank test
 (p < 0.05)
 가 (p < 0.1); 1)
 (p < 0.06), 2) : 200 ng/ml
 (p < 0.07), 3) 2 (p <
 0.06), 4) : 24
 (p < 0.06). 12가
 > 0.1). (p
 P 0.25 6
 (multivariate analysis) , Cox
 proportional hazard model , Child
 (Table 3). 6가 3
 가
 (p < 0.05).

가 (24). 가

가 TOCE TGE , stage IV TOCE 가

가 , 가가 . 42 41 (98%) 1

(12, 13). , 13 1 , 8

(23.8%) (4 - 8). , (2, 3, 10, , Stage IV 가 21

11). 가 (50%) 가 가 (n

(12). 85 - 100% = 14, 33.3%), , Child 가 C (n = 18, 42.9%), ,

(2, 14), 가 (n = 15, 35.7%). 3 1

40%, 70%, 80% (2 - 3, 12). 41% 26% 가 , 221

1 90% . , 가

(4 - 8, 14). , Shimada (25)

1 30% 가 .

가 가 가

가 (4 - 8). 가 가

가 (15 - 21). 가 (elective operation) (elective TOCE)

가 TOCE TGE TOCE TOCE .

(15 - 16), 가 (17 - 18). , 3 1

TOCE 가 ,

가 (19 - 20). (iodized oil), 가

가 , 3

가 가 가

(22 - 24). , 가 가

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Intraperitoneal Hemorrhage Due to Spontaneous Rupture of Hepatocellular Carcinoma: Comparisons of Transarterial Oily Chemoembolization and Simple Embolization with Gelfoam¹

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Purpose: To compare the safety and effectiveness of transarterial oily chemoembolization (TOCE) and transarterial embolization (TAE) with Gelfoam in cases of ruptured hepatocellular carcinoma (HCC), and to describe the most important prognostic factors involved in emergency embolization.

Materials and Methods: Forty-two consecutive patients with spontaneously ruptured HCC underwent emergency TOCE (n = 22) or TAE (n = 20). In the TOCE group, Lipiodol (3 - 10 cc), Adriamycin (20 - 50 mg), and Mitomycin (2 - 10 mg) were used, and these were followed by blockade of the hepatic arterial flow with gelatin sponge particles. In the TAE group, patients underwent only Gelfoam embolization. Using the Kaplan-Meier method, survival time from the time of embolization was estimated, and to analyze prognostic factors, Cox's proportional hazard regression model was used.

Results: Successful hemostasis was achieved in 41 patients (97.6%). Mean survival time was 201 and 246 days in the TOCE and TAE group, respectively, but the difference was not statistically significant ($p > 0.05$). Five of the TOCE group (22.7%) and three of the TAE group (15.0%) died of hepatic failure. Analysis of the prognostic factors showed that portal vein involvement by the tumor was the most important factor influencing survival.

Conclusion: Although TOCE and TAE effectively controlled hemorrhaging from a ruptured HCC, the procedures involve a high risk of hepatic failure. Their goal should, therefore, be solely to achieve hemostasis, and thus decrease parenchymal injury.

Index words : Liver neoplasms, angiography
Hepatic arteries, therapeutic blockade

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: , (Plenary Lecture), Robert Mattrey , , What 's New,
Panel Discussion, , ,

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