A COMPARISON OF TRANSCATHETER ARTERIAL EMBOLIZATION WITH ONE SHOT THERAPY FOR THE PATIENTS WITH HEPATIC CELL CARCINOMA

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Summary

It has been confirmed gradually that transcatheter arterial embolization is the most effective, conservative therapy for the treatment of unresectable hepatic cell carcinoma (hepatoma). Embolization or one shot therapy was carried out in a clinical trial involving 41 patients with unresectable hepatoma visiting our department. Embolization group (emboli G): 19 cases. 1 to 6 embolizations in each case. One shot group (one shot G): 22 cases. Medications: Mitomycin C 10-40 mg and others.

Disappearance rate of icterus after treatment was 50% (emboli G) and 25% (one shot G). Decrease in size of hepatomegaly or tumor was seen in 84% (emboli G) and 32% (one shot G) which was statistically significant (<1%). Serum AFP titer after embolization decreased in all cases but in only 5 of 12 cases (ca 41%) after one shot (<1%). Effective cases measured by Karnofsky’s method were 18 out of 19 cases (95%) in emboli G, but in one shot G only 10 out of 22 cases (ca 45%) (<0.1%). Survival rate after each therapy was 67% (emboli G) and 38% (one shot G) after 6 months, and 59% (emboli G) and 19% (one shot G) at 1 year respectively.

One study showed that transcatheter arterial embolization therapy was much more effective than one shot therapy.

Key Words: hepatoma, transcatheter arterial embolization therapy, arterial one shot therapy, α-fetoprotein.

Introduction

At the 15th general meeting of the Japanese Hepatological Association held in 1979, we reported the usefulness of transcatheter arterial embolization (embolization) in the management of patients with liver cell carcinoma (hepatoma). Since then, many follow-up reports have been published. In addition, various studies such as angiographic diagnosis, serum
α-fetoprotein (AFP) assay, survival time determination, and histology have recently been carried out with results in support of the value of this therapy\textsuperscript{1–3}. Thus, embolization may now be regarded as an established means of combating hepatoma. However, no ample evidence has so far been presented as to improvements in subjective and objective symptoms brought about by embolization. Furthermore, to the best of our knowledge no author has compared the curative effect of embolization to that of intraarterial one shot infusion of anticancer drugs (one shot therapy). In this study, we analyzed the healing performances of embolization and of one shot therapy in hepatoma cases. As a result, the former method was favorably compared with the latter.

**Materials and Methods**

The subjects studied were 41 patients with hepatoma admitted to our clinic between May, 1973 and March, 1981, of whom 19 underwent embolization and 22 underwent one shot therapy. All of them were found to be unable to undergo surgery because of tumor size, extension, metastasis, advanced liver cirrhosis, thread and streak sign positive and other reasons. No appreciable difference was seen between these two groups of patients with regard to sex or age distribution (Table 1), nor was there any significant difference in the incidence of liver cirrhosis, ascites, splenomegaly, esophageal varix or icterus (Fig. 1). No significant difference was present concerning routine liver function tests, hepatplastin tests or ICG tests, either (Table 2). To sum up, comparison between embolization and one shot therapy was made in two groups which were similar in sex, age, clinical features, and liver function tests.

Embolization was performed by the method of Yamada, et al.\textsuperscript{4–6} once to 6 times (2.4 times on average) in each individual patient. A vascular catheter was inserted into common hepatic artery in almost cases of the one shot group. Of the 22 patients of the one shot therapy group, 19 were treated with 10–40 mg of mitomycin C (MMC), 2 with 8–10 mg of carboquone (CQ), and 1 with 20 mg of adriamycin.

The curative effect was evaluated on the basis of the improvements in subjective symptoms, disappearance of icterus, reduction in size of hepatomegaly or tumors, decrease in serum AFP levels determined by RIA, and survival time. Besides, all cases of each group were subdivided by stages of functional disorder according to the taxonomical method of Vogel, et