Peer Review File

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Reviewer A

Comments 1

1. This is a retrospective analysis of 71 patients with HCC with tumor diameter <5 cm who underwent c-TACE with and without GMD at Saiseikai Niigata Hospital between January 2018 and November 2021. This study investigates local recurrence and hepatic functional reserve. The local recurrence rates of TACE without GMD were 3.0% at 6 months, 16.7% at 12 months, and 35.0% at 18 months, around where it plateaued. Hence, the local recurrence rates in the GMD-c-TACE group were 7.7% at 14 months and 23.1% at 20 months, respectively. The authors concluded that the GMD-c-TACE allows dense lipiodol accumulation in the tumor and attainment of good local control.

There are multiple prior publications assessing the safety and efficacy of the GMD for cTACE using different chemotherapy agents, though this study used 50 mg Epirubicin hydrochloride, which is different than other agent utilized in prior studies. So, I am not sure about the importance of this study and what it could add to the literature.

Reply to Comments 1

Thank you for your useful comment.

Whether 1 mL of 10 mg of epirubicin is dissolved or 5 mL of 50 mg is dissolved, the dissolution is the same, and the mixing ratio with Lipiodol is 1 to 2, so the background is exactly the same just by changing the injection volume according to the tumor diameter. In addition, I added the validity of 50 mg not only from the same paper but also from the latest paper (Ref 24).

Changes in the text: P7 Line 154-156.

Comments 2

The patients follow up imaging are performed/reported in different timelines in two groups, which makes comparison impossible:

The local recurrence rates of TACE without GMD were 3.0% at 6 months, 16.7% at 12 months, and 35.0% at 18 months.

Vs.

The local recurrence rates in the GMD-c-TACE group were 7.7% at 14 months and 23.1% at 20 months, respectively.

Reply to Comments 2

Thank you for your useful comment.

We defined local recurrence rates in same timeline.

Changes in the text: P3 Line 62, P11 Line249-250.

Comments 3

Also, there are some major technical flaws on which response criteria were utilized to assess response, mRECIST vs RECISRT vs qEASL.

Reply to Comments 3

We assessed by mRECIST.

We provide the Methods and Results.

Changes in the text: P8, Line 181-182, P10 Line 239-P11 Line 244.

Table 3.

Reviewer B

Comments 1

General Comments

This research study demonstrated effectiveness of 100% W/O emulsion created the grass membrane emulsification device in cTACE for HCC. The authors retrospectively compared the cumulative local recurrence ratio and the deterioration of liver function (changes of ALBI score) between the emulsification device group and conventional 3-way-stopcock group. To date, the technique to create lipiodol emulsion is not standardized. In this manuscript, authors discuss this issue and propose using the developed device for the standardization.

Specific Comments

Title: “Efficacy of Glass Membrane Emulsification Device…” is better.

Abstract

Result: Cumulative local recurrence ratios (12.3 % 35.9% and 48.7% vs 0%, 0% and 23%) should be shown instead of 14 mos and 20 mos local recurrence ratio.

The comparison of changes of ALBI score should be stated.

Conclusion: “Additionally, the inhibition of the release…” cannot be state here. This seems to be speculation.

Reply to Comments 1

Thank you for your useful comments.

We exchanged Title.

Furthermore, we revised Results and Conclusion in Abstract according to your useful comments.

Changes in the text: P1 Line 1, P3 Line 63-64, Line 67-69.

Comments 2

Main body

P3 L90 W/O (water in oil) “emulsion” is better

P4 L123 “between”

P4 L155 not suspension, Change it to “emulsion”

P5 L181 State evaluation period.

P6 L208 The number of scales should be 2 decimal places i.e. 5212.07

P6 L229 Why 14 mos and 20 mos?

P7 L240 “Liver Deterioration” is needed in the top of paragraph.

Figure 3 is missing

P7 L263 “c-TACE”

P8 L293 “combination”

Reply to Comments 2

Thank you for your advice. I believe the relevant section is P4 L95.

I have rewritten W/O(water in oil) to W/O（water in oil） emulsion.

P4 L123 “between”

Thank you very much for your advice.

Since the page and Line may be displayed differently, I have made the following corrections on my PC display.

P5 L112, rewrite “be-tween” to “between”.

P6 L131 , rewrite “be-tween” to “between”.

P4 L155 not suspension, Change it to “emulsion”

Thank you very much for your advice. Since the page and Line may be displayed differently, I have made the following corrections on my PC display.

P7 L162, rewrite “suspension” to “emulsion”.

P6 L208 The number of scales should be 2 decimal places i.e. 5212.07.

We rewrite 5212.07.

Changes in the text: P10 Line 223.

P6 L229 Why 14 mos and 20 mos?

We revised same timeline.

Changes in the text: P11 Line 249-250.

P7 L240 “Liver Deterioration” is needed in the top of paragraph.

We added “Liver Deterioration” is needed in the top of paragraph.

Changes in the text: P11 Line 263.

Figure 3 is missing

We eliminated Figure 3.

We revised Figure 4 as Figure3.

P7 L263 “c-TACE”

We revised.

Changes in the text: P12, Line 270.

P8 L293 “combination”

Thank you very much for your advice. Since the page and Line may be displayed differently, I have made the following corrections on my PC display.

P14 L324, rewrite “com-bination” to “combination”.

Comments 3

Reference

The below two papers should be added and crate a paragraph to discuss about these previous clinical reports in the discussion session.

Anticancer Res 2022; 42: 3947-3951

Anticancer Res 2021; 41: 5817-5820.

Reply to Reviewer B Comments 3.

Thank you for your advice. We added and created a paragraph to discuss about these previous clinical reports in the discussion session.

Changes in the text: P16 Line 367-369.

Comments 5.

Figure

Fig 3 can be eliminated.

Reply to Comments 5.

We revised Figure 4 as Figure3.