Peer Review File

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Reply to Reviewer A

Comment 1: The statistical methods are not described in enough detail, could you please give information on what kind of tests were used (t-test, Wilcoxon etc.).
Reply 1: We have modified our text as advised (see page 9, lines 174-175).
Changes in the text: One-way analysis of variance (one-way ANOVA) was used to compare the means of multiple groups.

Comment 2: Figures 2-4 should be grouped into one figure a-c.
Reply 2: We have modified our text as advised.
Changes in the text:
Figure legend.

Comment 3: Figures 5-6 should also be one figure.
Reply 3: We have modified our text as advised.
Changes in the text:
Figure legend.

Comment 4: Figures 7-8 should also be one figure.
Reply 4: We have modified our text as advised.
Changes in the text:
Figure legend.

Reply to Reviewer B

Comment 1: Authors state in the abstract section that ES temperature was set to 208.99±34.33°C in cut and 233.37±28.69°C in coagulation mode and in the introduction the operating temperature is estimated to be 300°C (line 67). Please clarify.
Reply 1: The operating temperature of ES was measured as nearly 300°C in the preliminary experiment, but in the formal experiment, we recorded the data as 208.99±34.33°C in cut and 233.37±28.69°C in coagulation mode. Therefore, to be accurate, we revised the operating temperature (see page 7, line 78).
Changes in the text:
The operating temperature reaches 200-300°C.

Comment 2: The manufacturers of the foreign PB system, as well as the ES systems,

should be listed in brackets to allow other authors to reproduce the experiment.
Reply 2: We have added some additional contents as advised (see page 6, line 106).
Changes in the text:
PB (PEAK Surgical, Inc.), and ES (Valleylab Inc. USA)

Comment 3: In lines 93-96 I find the first division into 3 groups unnecessary and confusing. I suggest rewriting to describe only 6 groups.
Reply 3: We have modified our text as advised (see page 6, lines 108-113).
Changes in the text:
The experiment comprised 6 groups: (1) Conventional electrosurgery on cut 40 mode (ESC), (2) Conventional electrosurgery on coagulation 40 mode (ESCo), (3) The plasma blade on cut 6 mode (PBC), (4) The plasma blade on coagulation 8 mode (PBCo), (5) New low-temperature plasma surgery system on cut 60 mode (NPC), (6) New low-temperature plasma surgery system on coagulation 80 mode (NPCo)

Comment 4: I suggest adding separate descriptions for histopathology and graph figures 7 and 8, just as was done for 5 and 6.
Reply 4: We have modified our text as advised (see page 11-12, lines 224-235).
Changes in the text:
At 3 and 6 weeks, the incisions created by NTS-100 contained fewer T lymphocytes than ES incisions both in cut and coagulation mode (cut mode: 165.67±65.332 versus 247.83±24.045 at 3 weeks, $P<0.01$; 75.17±14.497 versus 130.33±17.061 at 6 weeks, $P<0.01$; coagulation mode: 210.33±65.938 versus 288.00±27.225 at 3 weeks, $P<0.01$; 101.00±17.967 versus 186.67±21.087 at 6 weeks, $P<0.01$) (Figure 4).
Likewise, at 3 and 6 weeks, the incisions created by NTS-100 contained fewer macrophages than ES incisions both in cut and coagulation mode (cut mode: 122.00±13.416 versus 161.83±33.469 at 3 weeks, $P<0.01$; 44.17±5.636 versus 83.17±8.329 at 6 weeks, $P<0.01$; coagulation mode: 151.33±24.468 versus 180.17±33.689 at 3 weeks, $P<0.01$; 79.33±9.331 versus 107.83±9.109 at 6 weeks, $P<0.01$) (Figure 5).

Comment 5: Line 291 - NTS-100 produced significantly less surgical smoke than the PB - please provide data source.
Reply 5: We did not objectively evaluate the difference in smoke production and we will find suitable indicators and devices to measure it in further studies (see page 17, lines 339-340).
Changes in the text:
The difference in smoke production and blade eschars was visible to the naked eye.

Comment 6: The main text lacks a "conclusions" section! Furthermore, the abstract

conclusion does not provide information on what instruments were compared to NTS-100.

Line 50 "Conclusions: The local operating temperature of NTS-100 is lower and NTS-100 had similarly reliable safety and efficacy."

Reply 6: We have modified our text as advised (see page 18, lines 358-340).

Changes in the text:

5. Conclusions

The local operating temperature of NTS-100 was lower than PB, and NTS-100 had similarly reliable safety and efficacy.

Comment 7: Requires major English editing, preferably by a native speaker.

Reply 7: We have asked AME Editing Service to help us process the article for standard English language editing.