

Comparison of Laser Assisted Lipolysis (LAL) to Controlled Laser Assisted Lipolysis (CLAL): A Prospective Study

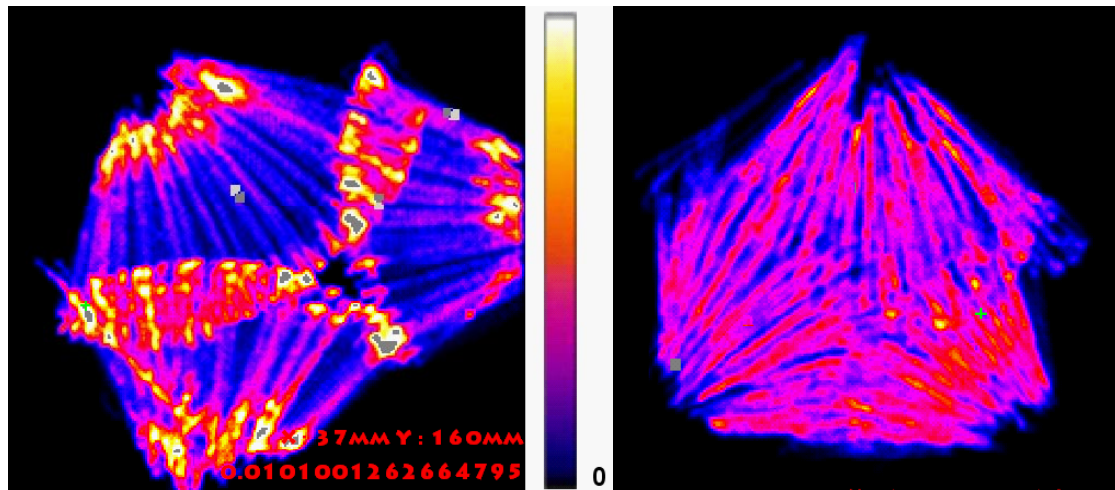
Neil Sadick, Theodore Diktaban, Carmen Kavali, Serge Mordon, Philippe Rochon

Background –

Laser Assisted Lipolysis (LAL) is a method for removing localized accumulations of fat under local anesthesia. Despite being a minimally invasive method, some complications can occur. Controlled Laser Assisted Lipolysis (CLAL) is a new technique allowing the control in real-time of the position of the cannula inside the fat layer and the delivery of energy.

Device –

The Lipocontrol (Osiris Medical) system gives the position of the cannula every 10ms, computes speed of motion every 50 ms, and calculates laser power accordingly. Precise mapping of energy delivered is seen on the screen in real-time avoiding under or over dosage.



Objective –

This clinical prospective study aims to compare LAL versus CLAL to evaluate the performance of the magnetic tracking of the cannula.

Study Design –

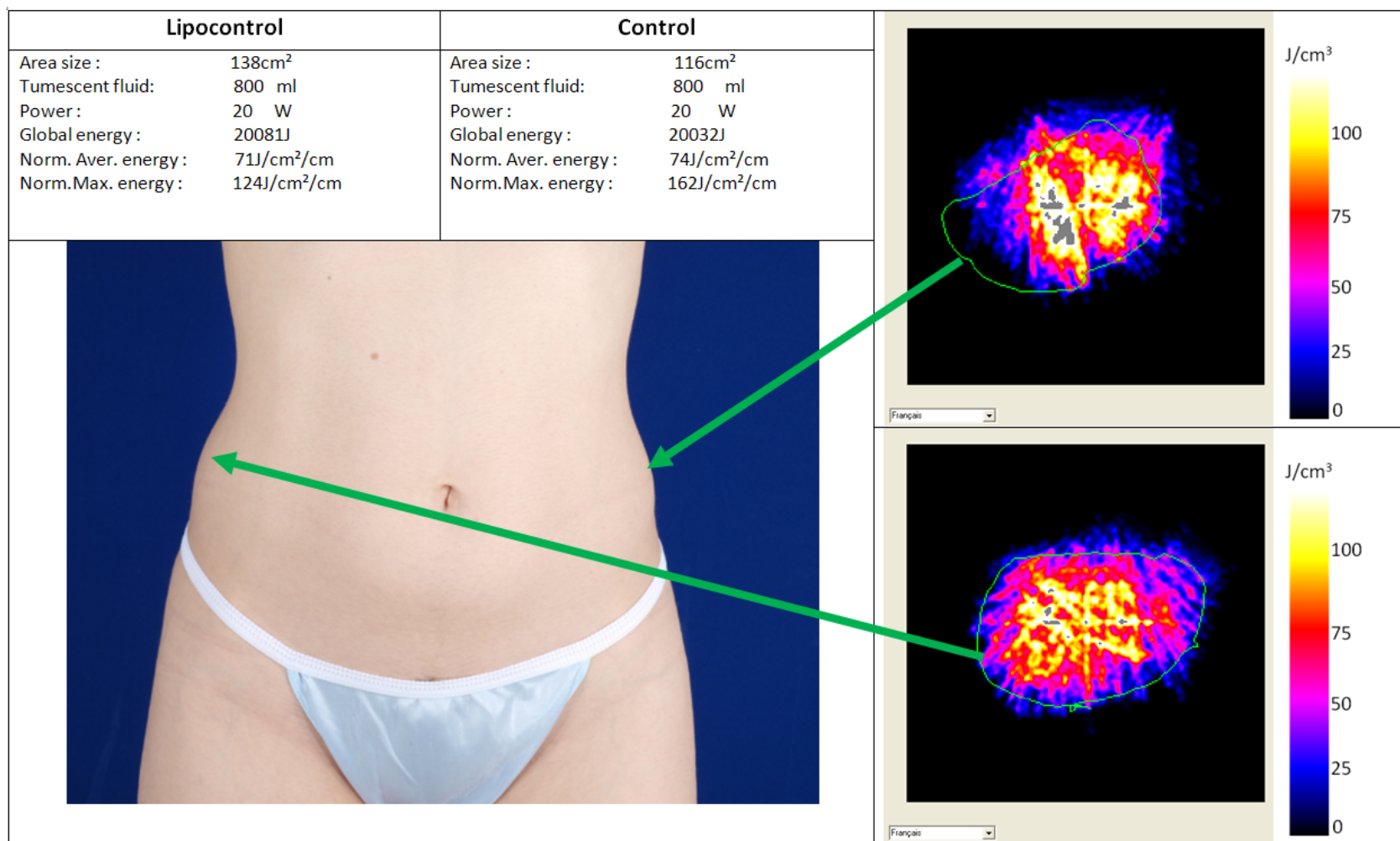
Twenty five patients were treated with 980nm-diode laser (Lipocontrol, Osiris Medical). For each location (thigh, abdomen, male breast, buttocks) one side was treated conventionally with LAL (control functions were disabled or masked), the other side with CLAL (surgeon had access in real-time to control functions). For both sides energy cartographies were recorded.

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Results I:

On average the treated area size was 382 +/- 64 cm². The energy distribution on the LAL side was significantly different from CLAL side. On the LAL side some areas were undertreated while others were overdosed.

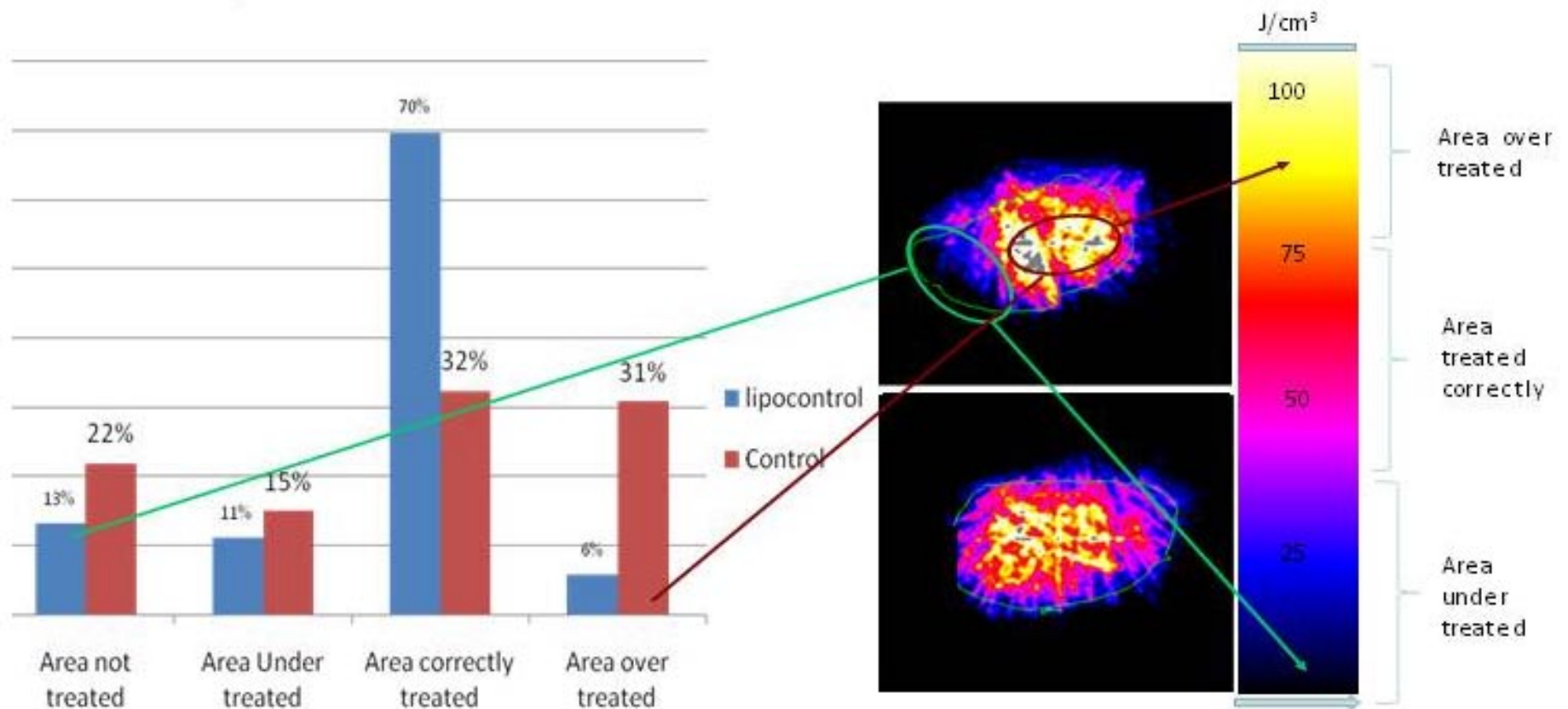


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Results 2:

Area not treated in the control segment is 22% - representing a significant risk for asymmetry. Area over-treated in the control segment is 31% - representing a significant risk for burns. The average localized energy excess on the LAL segment was 266% +/- 114%, while the localized energy excess for CLAL was 84% +/- 35%.



Results 3:

The real-time display of energy in CLAL gives the surgeon increased control over the treatment allowing for the quantification of energy and standardization of dosage. Energy is delivered homogeneously and the treatment endpoint is refined and resulting in decreased tenderness and downtime.

1 WE comparative tenderness assesement (n=21)

