SPDP WS 2023

General Presentation Guidance

Call for Papers

- **Oral Presentation**

  Research for / with nonhuman primates

- **CPC** (Clinico Pathology Conference)

  Discussion for spontaneous cases in nonhuman primates

- **Poster Presentation**

  Research for / with nonhuman primates

Abstract Submission

- By July 7, 2023
- To SPDP Office; spdp.itagaki@gmail.com

Abstract Format

- Essential: Title, Name of presenter and co-worker(s), Affiliation(s) of presenter and co-worker(s), E-mail address of presenter, Description
- Languages: Japanese or English
- See the example abstract for details.
  - Put "○" on the name of presenter.
  - Descriptions shall be concisely arranged with labels such as "Introduction", "Materials and Methods", "Results" and "Discussions".
  - Document format such as fonts, font size, line height etc. shall be arranged by an editor for the proceeding.
  - Specific characters may be replaced without changing of the original meanings.
- Upper limit: Up to 2 pages in A4 size.
- Acceptable file format:

  PDF, Plain text, Rich text, MS-Word, Apple Pages, ODF document

Presentation

Notice me the site of your presentation; ON SITE or ON LINE, also what device will you use; Your own device or the Venue prepared if you were on site.

Poster Presentation

1. Face to Face participant

   Prepare a printed poster (P-poster) for the venue hall and its digital file for online participants.

2. Online participant

   Prepare a E-poster.

Presentation period

- E-poster July 26 to 30, 2023
- P-poster On the day of Workshop.

Discussion / Q&A

- E-poster On a mailing list for the participants.
  Discussion can be continued directly with the presenter and the questioner after the online presentation period.
- P-poster Anytime on the venue.

Preparation

1. P-poster

- Size A0, vertical position
- Poster No. A distributed poster No. shall be shown on the head of the poster title.
- Submission Bring your own P-poster to the venue.

2. E-poster

- File format PDF
- File size Less than 30MB
  Page format A size, vertical position (W:H = 1 : √2)
- Poster No. A distributed poster No. shall be shown on the head of the poster title.
- Submission

  To: spdp.itagaki@gmail.com

  Via: Large files transfer service or File sharing on your cloud

More information / Contact

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3D-Quantification of Abdominal Fat Using MRI in Cynomolgus Monkeys

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Introduction: This study is to establish an analytical method for quantification of abdominal fat tissue based upon actual three-dimensional (3D) configuration of intraabodominal fat (IaF) and subcutaneous fat (ScF) in cynomolgus monkeys using magnetic resonance imaging (MRI) technique. Excess calories and hypokinetic lifestyle commonly result in obesity. It is also usual with this species of monkey, especially in husbandry. Obese macaques are unique model of human obesity and occasionally die a sudden without prior indication of illness or following brief weight loss (Fatal fasting syndrome).
Materials and methods: Ten female cynomolgus monkeys have been kept individually, 10 to 25 years old in age and 3.10 to 6.80 kg in body weight, were anesthetized by isoflurane inhalation with monitoring of vital signs. Then abdominal portion of these animals were scanned by Allegra 3.0T with *syngo* MR A30 for operation software (SIEMENCE, Germany) to get three types of spin-echo T1-weighed images (T1WI) in the following conditions;

T1WI-1: Slice thickness 2.0mm, Repetition time 500ms, Echo time 15ms, in sagittal section
T1WI-2: Slice thickness 2.0mm, Gap between slices 2.0mm, Repetition time 1,640ms, Echo time 9.5ms, without Water suppression, in coronal section
T1WI-3: Slice thickness 2.0mm, Gap between slices 2.0mm, Repetition time 1,640ms, Echo time 9.5ms, with Water suppression, in coronal section

Tissues of IaF and ScF were quantified with ImageJ 64 (National Institute of Health, USA) on sequencial 30 of T1WI-3 which were identified as upper than lumbosacral junction in referred with T1WI-1. T1WI-2 were referred for anatomic understanding. The MR images were converted to 16-bit grayscale stacks in 768 x 768 pixel resolution (768 pixels = 210.00 mm), then following two types of image in 8-bit grayscale were abstracted using Binary command;

(A) T1-high area of both IaF and ScF
(B) An area formed by manually traced line roughly placed between IaF and ScF

IaF and ScF areas (mm^2) were measured on the images which were obtained by the following image calculations;

Image IaF = Binary image (A) - Binary image (B)
Image ScF = Binary image (A) - Image IaF

Then the volumes (mm^3) were calculated by the following formulae;

Volume IaF (mm^3) = 4 mm x ∑1-30 Area of IaF (mm^2)
Volume ScF (mm^3) = 4 mm x ∑1-30 Area of ScF (mm^2)

Results: **U**sing above mentioned technique, high-contrasted MR images of abdominal fat tissues in cynomolgus monkeys were successfully obtained. They were easy to process and suitable for 3D image analysis with an open-source image analyzing software. The total abdominal fat volumes analyzed by this method, which is based upon actual anatomic distribution of fat tissues, well correlated with the body weight (BW) values and body mass indexes (BMIs) expediently computed from BW and crown-rump (C-R) length, and were considered as accurate reflection of actual state of body fat accumulation of each monkey.
Discussions: This newly developed method can take place the current major way of body fat quantification using Dual Energy Absorptiometry (DEXA) which is based upon two-dimensional imaging in primate models for human obesity.