

Clinical Anatomy

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(1) Outline

Department of Clinical Anatomy supports clinical medicine through formulation of human anatomical and developmental biological bases of diagnoses and surgical procedures. We handle the whole body in human anatomical researches. We think it is classic but important to represent human morphology for exactly what they are based on meticulous observations of human body structures regardless of diagnostic technics and surgical procedures. Our researches are aimed to share languages among all clinicians based on clinical anatomy by describing the results of observations in an accessible way for clinicians. In addition, we perform analyses using experimental embryological approaches and developmental biological approaches, because we think it is important to consider how human structures are constructed.

(2) Research

- 1) Clinical anatomic study of the shoulder joint and rotator cuff.
- 2) Clinical anatomic study of the anal region for the rectoanal surgery.
- 3) Cadaveric study of the female pelvis for the gynecologic oncology and colposcopy.
- 4) Analyses of the lamination in the masticatory muscles with special reference of nerve supply.
- 5) Embryological study of the differentiation of cloaca and surrounding muscles.

(3) Education

Clinical anatomy is generally considered as the practical application of anatomical knowledge to diagnosis and treatment, however we think that this course is a part of pure anatomical science based on the findings of the morphological observations of the human bodies. Main objective of Clinical anatomy in the graduate course is to make detailed anatomical data to answer the questions developed from clinical fields especially by surgeons and radiologists. We collaborate with many clinicians: ENT, orthopedics, gynecology, thoracic surgery, radiology and so on, and our projects have been broad areas. Students are expected to get fine dissection techniques of

human bodies and also learn techniques of histology and embryological experiments. By using these techniques, we study the spatial relationships of organs, vessels nerves, and also try to examine their developmental processes in various projects.

(4) Lectures & Courses

Theories and hypotheses of morphogenesis derived from descriptive anatomy and descriptive biology have been confirmed and modified by experimental biology. Furthermore, progresses of developmental biology identified molecules and signaling pathways involved in the morphogenesis. Progresses in the developmental biology also verified morphological hypotheses, and added revisions to the morphological models. The postulates of the morphological models which are currently investigated were built and completed by Anatomy. However, we find Anatomy is still not completed and has many obscure issues through careful dissection of human body. It might be thought that everything was done and there could be no new finding in the human anatomical field anymore because the anatomy employs the classic procedures such as the gross anatomy. However, there are still a lot of unclear anatomical topics, because they had not been focused and not investigated with their clinical significances.

(5) Publications

[Original Articles]

1. Hitomi Fujishiro, Sachiyuki Tsukada, Tomomasa Nakamura, Akimoto Nimura, Tomoyuki Mochizuki, Keiichi Akita. Attachment area of fibres from the horns of lateral meniscus: anatomic study with special reference to the positional relationship of anterior cruciate ligament. *Knee Surg Sports Traumatol Arthrosc.* 2017.02; 25(2); 368-373
2. Keiko Okumura, Kumiko Yamaguchi, Tatsuya Tamaki, Kazuhiro Oinuma, Hikaru Tomoe, Keiichi Akita. Prospective analyses of female urinary incontinence symptoms following total hip arthroplasty. *Int Urogynecol J.* 2017.04; 28(4); 561-568
3. Tomoyasu Kato, Keiichi Akita. Abstracts presented at the 20th Japanese Research Society of Clinical Anatomy on November 12th 2016 at National Cancer Center Hospital. *Surg Radiol Anat.* 2017.05; 1029-1043
4. Luo Y, Fujita H, Nedelescu H, Biswas MS, Sato C, Ying S, Takahashi M, Akita K, Higashi T, Aoki I, Sugihara I. Lobular homology in cerebellar hemispheres of humans, non-human primates and rodents: a structural, axonal tracing and molecular expression analysis. *Brain Structure and Function.* 2017.05; 222(6); 2449-2472
5. Junichiro Hamada, Akimoto Nimura, Kunio Yoshizaki, Keiichi Akita. Anatomic study and electromyographic analysis of the teres minor muscle. *J Shoulder Elbow Surg.* 2017.05; 26(5); 870-877
6. Okada R, Muro S, Eguchi K, Yagi K, Nasu H, Yamaguchi K, Miwa K, Akita K. The extended bundle of the tensor veli palatini: Anatomic consideration of the dilating mechanism of the Eustachian tube. *Auris Nasus Larynx.* 2017.06;
7. Satoshi Usami, Mutsumi Okazaki, Tomohisa Nitta, Noriko Uemura, Tsutomu Homma, Keiichi Akita. Histological investigation of common insensate flaps obtained from the hand and forearm regions for use in fingertip reconstruction. *J Plast Surg Hand Surg.* 2017.06; 51(3); 182-186
8. Junya Imatani, Keiichi Akita. Volar Distal Radius Anatomy Applied to the Treatment of Distal Radius Fracture. *J Wrist Surg.* 2017.08; 6(3); 174-177
9. kawada k, Kawano T, Sugimoto T, Yamaguchi K, Kawamura Y, Matsui T, Okuda M, Ogo T, Kume Y, Nakajima Y, Andres Mora, Okada T, Hoshino A, Tokairin Y, Nakajima Y, Okada R, Kiyokawa Y, Nomura F, Asakage T, Shimoda R, Ito T. Case of superficial cancer located at the pharyngoesophageal junction which was dissected by endoscopic laryngopharyngeal surgery combined with endoscopic submucosal dissection. *Case Rep Otolaryngol.* 2017.08;

10. kawada k, Kawano T, Okada T, Yamaguchi K, Kawamura Y, Matsui T, Okuda M, Ogo T, Kume Y, Nakajima Y, Anderes Mora, Hoshino A, Tokairin Y, Nakajima Y, Okada R, Kiyokawa Y, Nomura F, Ariizumi Y, Sugimoto T, Asakage T, Ito T. The usefulness of intra-oropharyngeal U-turm method using trans-nasal endoscopy for detecting superficial squamous cell carcinoma of the base of the tongue *J Otolaryngol ENT Res.* 2017.08; 8; 240
11. Minobu Kamo, Taiki Nozaki, Jay Starkey, Saya Horiuchi, Natsuka Muraishi, Kazunori Hattori, Keiichi Akita. The Peak Site of Stone Distribution in the Upper Ureter is Unlikely the Ureteropelvic Junction: Computed Tomography Analysis of Stone Lodging Site With Respect to a Newly Identified Area of Constriction. *Urology.* 2017.09; 107; 31-36
12. Yasuo Nakajima, Satoru Muro, Hisayo Nasu, Masayo Harada, Kumiko Yamaguchi, Keiichi Akita. Morphology of the region anterior to the anal canal in males: visualization of the anterior bundle of the longitudinal muscle by transanal ultrasonography. *Surg Radiol Anat.* 2017.09; 39(9); 967-973
13. Takamitsu Arakawa, Takahiro Kondo, Masahiro Tsutsumi, Yuko Watanabe, Toshio Terashima, Akinori Miki. Multiple muscular variations including tenuissimus and tensor fasciae latae muscles in the posterior thigh of a human case. *Anat Sci Int.* 2017.09; 92(4); 581-584
14. Hisayo Nasu, Akimoto Nimura, Sara Sugiura, Hitomi Fujishiro, Hideyuki Koga, Keiichi Akita. An anatomic study on the attachment of the joint capsule to the tibia in the lateral side of the knee. *Surg Radiol Anat.* 2017.11;
15. Yusuke Ueda, Hiroyuki Sugaya, Norimasa Takahashi, Keisuke Matsuki, Morihito Tokai, Kazutomo Onishi, Shota Hoshika, Hiroshige Hamada. Arthroscopic Fragment Resection for Capitellar Osteochondritis Dissecans in Adolescent Athletes: 5- to 12-Year Follow-up. *Orthop J Sports Med.* 2017.12; 5(12); 2325967117744537

[Misc]

1. Yoshihiro Sakamoto, Norihiro Kokudo, Yoshikuni Kawaguchi, Keiichi Akita. Clinical Anatomy of the Liver: Review of the 19th Meeting of the Japanese Research Society of Clinical Anatomy. *Liver Cancer.* 2017.02; 6(2); 146-160

[Conference Activities & Talks]

1. Keiichi Akita. Clinical anatomy of Masticatory Muscles. Joint Educational Meeting 2017 of Society of Spanish Anatomy and Society of Portuguese Anatomy 2017.02.17 Madrid, Spain
2. Saya Horiuchi, Taiki Nozaki, Atsushi Tasaki, Sachiko Ohde, Jay Starkey, Deshpande Gautam, Yasuyo Teramura, Yasuyuki Kurihara, Hiroshi Yoshioka. Comparison of 3D isotropic fast spin-echo and conventional 2D shoulder MRI for the evaluation of rotator cuff. Annual Congress of the European Congress of Radiology 2017 2017.03.01 Vienna, Austria
3. Yusuke Ueda, Hiroyuki Sugaya, Norimasa Takahashi, Keisuke Matsuki, Morihito Tokai, Kazutomo Onishi, Shota Hoshika, Hiroshige Hamada. Mid to long term outcome after arthroscopic fragment resection for capitellar OCD lesions in adolescent athletes. Orthopaedic Research Society 2017 Annual Meeting 2017.03.16 San Diego, USA
4. M. Uomizu, T. Mochizuki, T. Ohara, J. Matsuda, N. Ozeki, K. Tsuji, A. Nimura, T. Miyamoto, M. Goto, I. Sekiya, T. Muneta. Synovium-derived MSCs promote the restoration of tensile strength of the rotator cuff tendon after repair in a rat model. Orthopaedic Research Society 2017 Annual Meeting 2017.03.19 San Diego, CA, USA
5. Daisuke Momma, Akimoto Nimura, Tadanao Funakoshi, Tomoyuki Mochizuki, Keiichi Akita, Norimasa Iwasaki. Anatomical Analysis of the Whole Articular Capsule from the Glenoid and the Humeral Attachment. Orthopaedic Research Society 2017 Annual Meeting 2017.03.19 San Diego, USA
6. Mari Uomizu, Tomoyuki Mochizuki, Toshiyuki Ohara, Junpei Matsuda, Nobutaka Ozeki, Kunikazu Tsuji, Akimoto Nimura, Takashi Miyamoto, Masafumi Goto, Ichiro Sekiya, Takeshi Muneta. Synovium-derived MSCs promote the restoration of tensile strength of the rotator cuff tendon after repair in a rat model. Orthopaedic Research Society 2017 Annual Meeting 2017.03.19 San Diego, USA

7. Kohtaro Eguchi, Masami Suzuki, Shota Ida, Keita Mori, Hisao Imai, Shigehiro Kudo, Ken Ando, Keiko Higuchi, Takeshi Ebara. Laryngopharyngeal reflux is a risk factor for radiation-induced mucositis in head and neck cancer. 5th Congress of Asian Society of Head & Neck Oncology 2017.03.25 Bali, Indonesia
8. Shouta Hoshika, Akimoto Nimura, Hiroyuki Sugaya, Norimasa Takahashi, Keiichi Akita . Stabilizing structures of the medial side of elbow joint: an anatomic study. 14th Association France Japon d'Orthopedie 2017.05.12 Nikko, Tochigi
9. Kentaro Amaha, Akimoto Nimura, Soichi Hattori, Reiko Yamaguchi, Keiichi Akita. Anatomic study regarding the medial side of the ankle based on the joint capsule. 14th Association France Japon d'Orthopedie 2017.05.12 Nikko, Tochigi
10. Yusuke Ueda, John G Costouros, Emilie Cheung. Deep shoulder infection: Prosthetic reimplantation or cement spacer retention?. The 62nd Annual LeRoy C. Abbott Society Scientific Program 2017.05.12 San Francisco, USA
11. Keiichi Akita. Surgical Anatomy of the pancreas with special reference to the nerves to the pancreas and the ligament of Treitz. Joint congress of 6th Asian-Pacific Hepato-Pancreato-Biliary Association and 29th Meeting of Japanese Society of Hepato-Biliary-Pancreatic Surgery 2017.06.09 Yokohama, Japan
12. Kenji Ibukuro, Masaya Mori. The Hepatic Capsular Arteries: Radiological and Anatomical Features. ESGAR2017 2017.06.19 Athens, Greece
13. Akimoto Nimura, Tetsuya Sato, Reiko Yamaguchi, Koji Fujita, Takashi Miyamoto, Keiichi Akita. Intramuscular tendons of the adductor pollicis and the thumb metacarpophalangeal joint capsule: an anatomic study with implications regarding Stener lesion. Eurohand 2017 2017.06.21 Budapest, Hungary
14. Satoru Muro, Yasuo Nakajima, Hisayo Nasu, Kumiko Yamaguchi, Keiichi Akita.. Anterior Region of the Anal Canal: Transanal Ultrasonography and Histological Study.. 34th Annual Meeting - American Association of Clinical Anatomists 2017.07.21 Minneapolis, USA
15. Yusuke Ueda, Hiroyuki Sugaya, Norimasa Takahashi, Keisuke Matsuki, Morihito Tokai, Kazutomo Onishi, Shota Hoshika, Hiroshige Hamada. Mid to long term outcome after arthroscopic fragment resection for capitellar OCD lesions in adolescent athletes. AOSSM 2017 2017.07.23 Toronto, Canada
16. Masayo Harada, Keiichi Akita. The spontaneous mutation (N143T) in mouse Fgf9 leads to thicker long bones. 14th International Conference on Limb Development and Regeneration 2017.07.24 Edinburgh, UK
17. Keiichi Akita. Surgical Anatomy of the pancreas with special reference to the nerves to the pancreas and the ligament of Treitz. Post graduate Seminar in Siriraj Hospital, Mahidol University 2017.08.28 Bangkok, Thailand
18. Yusuke Ueda, John G Costouros, Emilie Cheung. Low body mass index and young age are associated with inferior outcomes after reverse total shoulder arthroplasty. 1st AP Shoulder and Elbow Symposium 2017.10.07 Tokyo, Japan
19. Akimoto Nimura, Shota Hoshika, Hiroyuki Sugaya, Keiichi Akita. Anatomy of medial ligament complex in elbow. 1st AP Shoulder and Elbow Symposium 2017.10.08 Tokyo, Japan
20. Ryuhei Okada, Masaru Yokomura, Keiji Oi, Yosuke Ariizumi, Yusuke Kiyokawa, Fuminori Nomura, Akihisa Tasaki, Yumiko Tateishi, Susumu Kirimura, Takahiro Asakage. Medullary thyroid carcinoma detected based on elevated serum procalcitonin levels: A case report. 2nd Congress of Asia-Pacific Society of Thyroid Surgery 2017.11.02