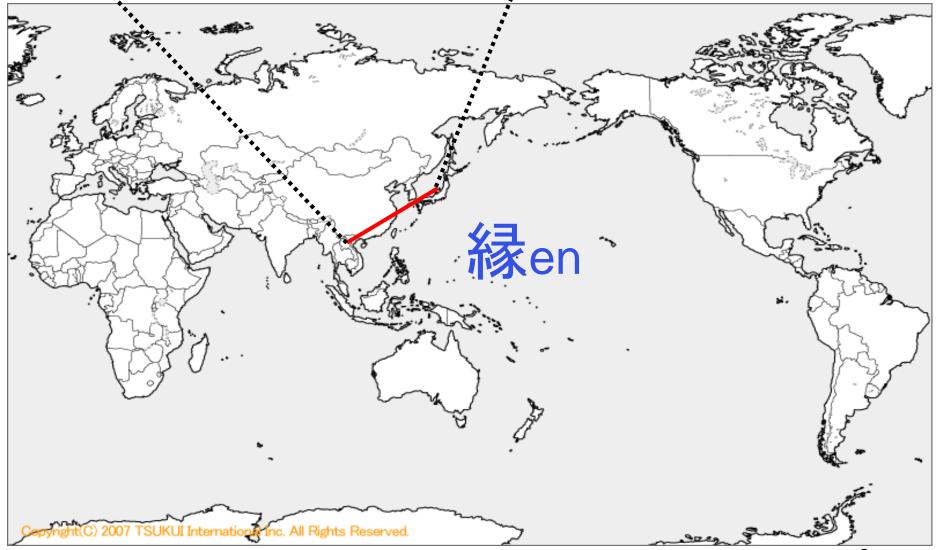
# Hello from



## Kanazawa Medical University KMU

#### **Vietnam Military Medical University**

#### **Kanazawa Medical University**



## **KMU** Newsletter





No. 133 January 2008

■年讀挨拶 理事長、学長、病院長 金沢医科大学創立35周年記念フォーラム 氷見市民病院の指定管理を受託

#### ■学本

平成20年度医学認AO·推薦·編入試験 第39回教育懇談会 第1回大学院教育懇談会 □学生のページ 学生の表彰 クラブ活動、ヨット認、スキー部 ■学術

第14回日本未病システム学会学術集会 第4回KMU研究推進セミナー ■病院

平成19年度第2回、第3回保険診療課習会 平成19年度第2回級和ケア講習会 平成19年度防災講習会,災害調練 看護部から発信:専門看護師認定ほか ■管理·運営

平成19年度永年勤続表彰 互助会第27回文化器 ■随想

永年勤続に思う ヤマボウシと曽根先生 ■図書館

電子ジャーナル導入状況 ■回窓会·後復会 第9回金沢医科大学北斗会懇親·懇談会

#### 【学事】

の整合性を構築した。特に医学系の修士・博士課程で は通常6年間を要するが、カリキュラムを工夫するこ とで両課程を5年間で修了することが可能となった。 教育の実質化は投業科目を精査し、研究科の階層構造 の位置を確認することにより、履修科目を整備・透明 化した。学生は各種の講習会、セミナー、講義、学会 を選択し、単位を修得している。

最後に、他大学との連合大学院構想である「子ども のこころの発達研究科|について説明された。距離の

#### 国際交流

#### ベトナムの大学関係者来訪

平成19年10月24日(水)、ペトナム軍医科大学(Vietnam Military Medical University, Ha Tay)の教員を含むべ トナム大学関係者11名(代表者 Major General Nguyen Trong Thang, Ph.D., Chairman, Ministry Department of College Management, Hanoi) が本学を訪れ、山田 学長に結妹校協定の緒結を申し出られた。現在、本学 健康增進予防医学(旧公衆衛生学)、富山大学医薬学 大学院システム情動科学(旧生理学)およびペトナム 軍医科大学が共同で「ダイオキシンの脳神経毒性に関 する研究」を行っているが、今後さらに大学問の協力 関係を築き、研究者と学生の活発な交流を図りたいと のことであった。

#### 金沢医科大学報

離れた大学問で、遠隔講義システム (e-learning) を 用いて科目を履修させる。演習は短期間に限定して各 大学を移動して行われるという、非常に工夫された教 育研究事業である。

本学の大学院教育の実質化は急務の問題であり、今 回の講演内容を参考として進めていきたい。今後とも 各教員の積極的なご協力をよろしくお願いします。

(大学院医学研究科長 野島孝之記)

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近年、医学研究でもアジア諸国との共同研究が盛ん に行われており、健康問題をアジア全体の問題として 捉える流れが生まれてきている。本学学生の間からも、 欧米だけでなくアジア諸国にも目を向けて、互いの文 化を知り交流を深めたいという希望を時々耳にするこ とから、この姉妹校協定はよい機会になると思われる。 ペトナムは、ペトナム戦争でダイオキシンを含む枯 業制の散布を受け、多くの奇形児の発生を見た国とし て知られている。戦後35年経った現在も、枯葉剤の残 留があるとされており、ダイオキシンによる健康危機 意識が高い国である。また近年の急速な経済発展に伴 う環境変化から、ダイオキシンによる健康への影響も 新しい視点の下で研究する必要が生じており、長年そ の分野に取り組んできた本学の寄与が期待されている。 本年3月には、ペトナム軍医科大学主催の国際学会 において、交流の第一歩が始まる予定である。 (健康增進予防医学 西条旨子記)



山田学長と親書を交わす Nguyen Trong Thangペトナム大学 管理省議長



ハイテクリサーチセンター研究室(ダイオキシン研究)の見学

雪中の寒紅梅

## Medical schools in Japan

## 80 schools

#### (approx. one for every 1.6 million people)

## including

1 National Defense Med College of the Japan Defense Agency
29 private

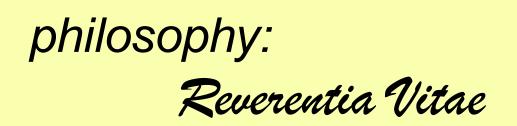
#### Kanazawa Medical University (KMU)



### Founded in 1972 Only private medical university on the Sea of Japan side

# Kanazawa Medical University





Mission:

To educate doctors with humanity, advanced knowledge and skills, greatest contributions to society



Chairman, Shizuo Odashima

Executive University —

KMU's organization -1

School of Medicine

Graduate School

School of Nursing

✤ Hospital

✤ Institute

## KMU's organization -2

- Office of the Executive Board
- Office of the University President
- Office of International Affairs
- Office of Public Information
- Admission Center
- Medical Education Center
- Students Support Center
- Library

# Medical education system in Japan

#### high schools Y1 mainly general education basic sciences: system-based 2 m clinical medicine: system-based 3 e clinical medicine: system-based d 4 Common Achievement Test including CBT and OSCE clinical training 5 6

National Exam for Medical Practitioners (MD) postgraduate clinical training for 2 years 4-year graduate programs (PhD)

## KMU School of Medicine



Departments general education: 8 basic science: 17 clinical medicine: 34

Faculty (2007) full time: 425 part time: 187



Students (2007) undergraduate: 659(med) 64(nurse) graduate:88

# <u>KMU's undergraduate curriculum</u> <u>- what we emphasize -</u>

- Iectures, small grps, on-site learning, many electives
   system-based, PBL, on-site learning
- 3 Ksystem-based, PBL, on-site learning
- 4 Ksystem-based, PBL
- 5 © clinical training in KMU Hospital (electric med charts)
- 6 Clinical training in extramural clinics/hospitals,
  - knowledge roundup

## Features in KMU education

#### Programs to foster problem-solving abilities through discussion in small groups guided by tutors



▶ peer lecturing ▶ scenario ▶ ...... ▶ diagnosis, management, etc.

## KMU Graduate School -1

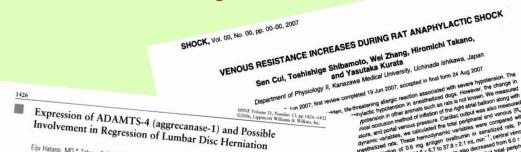
#### established in 1982, reorganized in 2003



3 specialized fields in the course of medical life sciences

- Biodynamic (14 subjects)
- Biocontrol (12 subjects)
- Health ecology (13 subjects)

#### Examples of research papers recently published: researches for PhD degrees



Eiju Hatano, MD,\* Takuya Fujita, MD, PhD,† Yoshimichi Ueda, MD, PhD,\* Tetsuhito Okuda, MD, PhD,† Shogo Katsuda, MD, PhD,\* Yasunori Okada, MD, PhD,‡

Study Design. Examination of ADAMTS-4 expression, and cellular lineages, distribution, and numbers of ADAMTS-4 (aggrecanase-1) expressing cells in herni-Objective. To determine the expression of ADAMTS-4, a

metalloproteinase capable of digesting aggrecan, and its role in herniated lumbar intervertebral disc degradation. Summary of Background Data. Matrix metalloproteinases degrade extracellular matrix of herniated discs, but the mechanism of aggrecan degradation, the major com-

ponent of intervertebral discs, is poorly understood. Methods. Surgically resected herniated lumbar intervertebral discs from 22 patients were subclassified into protrusion, subligamentous extrusion, transligamentous extrusion, and sequestration types. Reverse transcriptase polymerase chain reaction, Western blot, and immuno histochemistry were used to evaluate ADAMTS-4 mes-

Insucementatry were used to evaluate ADAMT3-4 mes-senger ribonucleic acid and protein expression. Results, Expression of ADAMT5-4 messenger ribonucleic acid and protein was shown in the samples of herniated lumbar intervertebral discs. Immunohistochemical niated lumbar intervertebrai oiscs. Immunonistochemical staining showed that ADAMTS-4 was mainly localized in CD68-positive mononuclear cells in granulation and adjacont disc tissues. ADAMTS-4 positive cell counts were significantly higher in transligamentous extrusion and seaugminicantly nighter in balastigamentous extrusion and se-questration than protrusion and subligamentous extruquestration than protrustor, and stongenetious entre sion types. Alcian blue staining showed a decrease of proteoglycan in transligamentous extrusion and seques-

Conclusions. Macrophages infiltrating granulation and concrusions. Macrophages intitrating granulation and adjacent disc tissues express ADAMTS-4, suggesting its involvement in herniated disc regression.

Key words: lumbar disc hernlation, ADAMTS-4, spon-taneous regression. Spine 2006;31:1426-1432

Analysis of serial magnetic resonance images sometimes shows a gradual decrease in the size of herniated lumbar

symptomatic lumbar disc herniation.<sup>1,2</sup> In particular, herniated disc fragments show regression in the epidural space after transligamentous extension.<sup>3</sup> The major fac-

From the Departments of "Pathology, Kanazawa Medical University, hhikawa, 10tmopaedic Surgery, Kanazawa Medical University, hi kawa, and takawa, and takawa and takawa and takawa and takawa and Acknowledge and take: May 16, 2005, Tixt revision date: July 17, 2005, Acceptance date: August 19, 2005, Tixt revision date: July 17, The manuscript education of the state of the state of the state device/sid/neg/si.

device(s)dGug(s). No funds were received in support of this work. No benefits in any form have been ne wall be received from a commercial party related directly or indirectly no be subject of this manuscriptical Address correspondence in the subject of this manuscriptical Address correspondence in the subject of the subject of the FillD. Perturnet of Orbit Argentic Surgery, Kanazawa Medical Univer-sity, 1-1 Daigaku, Uchimaka, Ishikawa 920-0293, Japan; Email: takaya@kanazawa-med.ac.jp

tors involved in the spontaneous regression of herniated disc fragments include inflammatory cells, especially macrophages, and various cytokines, such as interleukin-1, tumor necrosis factor-a, and basic fibroblast growth factor.<sup>4-7</sup> Matrix metalloproteinases (MMPs), which cause proteolytic degradation of aggrecan and collagens in articular cartilage, are also involved in reduction of herniated disc fragments, in which the major

matrix component is also aggrecan.8-10 With regard to aggrecan degradation, accumulated evi-

dence<sup>11</sup> indicates that "aggrecanase" activity is responsible for the degradation of articular cartilage in osteoarthritis and rheumatoid arthritis, and that the activity is derived from the members of the ADAMTS (a disintegrin and metalloproteinase with thrombospondin motifs) family.<sup>12</sup> Several members of the ADAMTS family, such as ADAMTS-1, 4, 5, 8, 9, and 15, belong to "aggrecanase," DUADLAMTS-4 is considered a key "aggrecanase" in hu-but ADAMTS-4 is considered a key "aggrecanase" in hu-man arthritis.<sup>13-18</sup> However, to our knowledge, there is little or no information on the expression of ADAMTS-4 in herniated lumbar disc tissues. The purpose of the present study was to investigate the expression and localization of ADAMTS-4 in surgically resected lumbar disc tissues that were herniated at various stages.

#### Materials and Methods

Subjects and Tissue Samples. The tissue samples used in the present study included 22 herniated lumbar disc tissues obtained during microdiscectomy from 22 patients, aged between 30 and 49 years, who were admitted to the Kanazawa Medical University Hospital between 2000 and 2003. Patients who had far lateral disc herniation, spinal stenosis, spondylolisthesis, or previous history of spinal operation or inflammatory disorders previous metory or spinal operation or minimumatory unsolucits were excluded from the present study. The type of disc herniation was classified into protrusion, subligamentous extrusion, transligamentous extrusion, and sequestration, according to the modified classification system of the International Society for the Study of the Lumbar Spine.<sup>19</sup> There were 5 samples obtained from cases of protrusion, 7 of subligamentous extrusion, 5 of transligamentous extrusion, and 5 of sequestration. The average duration of symptoms before surgery was 2.1 months (range 1-6). Synovial tissues were obtained from 3 nonins (range 1=0). synorm transfer tere as control tissues patients with rheumatoid arthritis and served as control tissues for ADAMTS-4 expression.

Intervertebral Disc Tissue Processing. During spinal surgery, the herniated portion of the intervertebral disc was carefully dissected out, and one half of each specimen was fixed in 10% buffered-formalin for 24 hours. The other half was rap-Copyright © Lippincott Williams & Wilkins. Unauthorized reproduction of this article is prohibited.

Satoko Yoneyama, Katsuyuki Miura, Satoshi Sasaki, Satoko Yoneyama, Katsuyuki Miura, Satosni Sasaki, 'atsushi Yoshita, Yuko Morikawa, Masao Ishizaki, Teruhiko Kido, -rhyladic hypotension in anesthelized dogs. However, the change in Advantion in other animals such as ratis is not known. We measured hold obclusion method of inflation of the right strait balloon along with nical occlusion method of initiation of the right atrait balloon along with suite, and portal versionits pressure. Cardiac output was also measured of marice vinables, we vinable to the peripheral and version (H) versions linection of 0.8 ma antioen ovalburnin in sensitized rate, P= anesthetized rats. These hemodynamic variables were compared with versus injection of 0.6 mg anigen ovalibumin in servi central versus collegad decreased from 84.5 5.7 to 37.8 = 21 mL min · , central versus of the service of the service s C output decreased from 84.5  $\pm$  5.7 to 37.8  $\pm$  2.1 nL mm<sup>-1</sup>, central versus mm<sup>4</sup>N<sub>0</sub> and mean circulatory ming pressure also decreased from 6.0  $\pm$  0.2 mm<sup>4</sup>N<sub>0</sub> and mean circulatory ming pressure also characterized from 1.2 mm<sup>-1</sup> mm<sup>-1</sup> mm<sup>-1</sup> mm<sup>-1</sup> mm<sup>-1</sup> mm<sup>4</sup> put 2.5  $\pm$  0.9 mm<sup>4</sup>N<sub>0</sub> at 3 wersus pressure also increased from 5.6  $\pm$  0.5 mm<sup>3</sup> attemption and the values of 4.3 %  $\pm$  1% to 55%  $\pm$  1% at 15 min after entition. bit venous pressure elso increased from 5.6 ± 0.5 to 21.5 ± 0.9 mm/Hz assime values of 43% ± 1% to 55% ± 1% al 15 min sher artigen. During aseine values of 43% ± 1% to 55% ± 1% at 15 min after antigen. During samer similar to anaphylactic shock; novework, P., did not significantly change, conclusion, in at anaphylactic shock, a substantial increase in P., presumably mean service service section sections is section. northegic shock, mean circulatory filling pressure, circulatory vascular resistance,

it is opvious that nepaue vascuature is included in the systemic venous system. Thus, we hypothesized that the R, system, remus system, rous, we nyponesteen use or re-rather than the arteriolar resistance, increases substantially in rather than the arteriolar resistance, increases sunstantiaty in a rata anaphylactic hypotension. In this study, to determine the standard of the study of the st rat anaphylactic hypotension. In this study, to actermine the total peripheral resistance  $(R_{\rm s})$  and Ry during rat anaphylactic und peripheral reasonance (N<sub>0</sub>) and NV during rat anaphylacue shock, we measured the Past and CO along with the systemic period success (D \ and control success) shock, we measured the  $Y_{met}$  and UO along with the systemic arterial pressure  $(P_{ev})$  and central venous pressure  $(P_{ev})$  in the systemic systemi arterial pressure  $(Y_{sa})$  and central venous pressure  $(Y_{sa})$  in anesthetized and sensitized rat. Actually,  $P_{sac}$  is the pressure anesthetized and sensitized rat. Actually, r<sub>and</sub> is use pressure measured in the vasculature immediately after cardiac arrest, neasured in me vasculature immediately arter cardiac artest, after pressures in all parts of the circulation are made to

9 cnHcO. Boral by personation personnel for 8 min after the antiened in 5.4 ± 0.1 to 28.6 ± 2.4 cnHcO at 6 min, but only a sheet Animals Twenty-sight make Sprigge-Dewley (SD) rats Uppen SLC. Blandka. Jepan weighing 30 ± 6 g ure maintained in 130-06 flood water and usana. The or a 12.8 data-12.h light cycle and allower sprivered by the Naimal Research ( committee of Kanazawa Medical University. 24 be occlusion provide the provide the provided the provide is characterized by the sinusoidal contraction, , bepatic circulation, isolated perfused rabbit liver, Sensitization Bais wells actively sensitized by the subcraneous injection of an emolution make by mixing equal volumes of complex proposition (0.5 mL) web 1 me wellowmin (grade V, Signal disadvel in program (0.5 mL) (4). Nonseational of the serve bayed with complex freesh disputes the to order free saline. Eas were used for the following experiments 2 weaks then toperion. his species (4). Based on these findings, that hepatic venoconstriction plays a Surgical preparation of animals Rus were maintenanced with personance and the solution (10 ms/ms<sup>-1</sup>, 10) and placed supply and the solution of the Medical, Ispan) that maintenance of the solution of the solution of the the experiment. The adequacy of members was managed by the solution of the s as to Toshishige Shikumton, MD, PAD, Department of Medical University, Uclimada Ishikuwa 920.0293, Japan. www.medice.in. Medical University, Uchinada Jahkawa 920 0293, Japan awai meda cilip antenet by a Granion, Anki fer Scientific Research (gran no Medicaty for Bahcaston, Calaton, Science and Trechnology of areas Medical University in 2007. parts VIIISCOT , in Caning angshylactic shock, shock, antigen induced solective constrained of 10- 10-1110-1748-1716-2006 01629-2

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Volume 17, Number 3 May 2007

Dietary Intake of Fatty Acids and Serum C-reactive Protein

Hepatic pre-sinusoidal vessels contract in anaphylactic N. Karatana is T. Shilamoto's C. Cui ' K. Takano, ' Y. Kurata' and K. Tauchida? Ahar th hypotensing in Done of the construction of the stand which in isolation is and the stand with the stand of 2.5 million that address in the stand with the stand isolation to be address in the stand with the stand with the stand isolation to be address in the stand with the stand with the stand isolation to be address in the stand with the stand with the stand isolation to be address in the stand with the stand isolation to be address in the stand with substantial role in the pathogenesis of rat anaphylactic shock. suosannariore na une parrogenesis or tai anapitytacue suock It is obvious that hepatic vasculature is included in the Action of source of the source and a share an interview of the state of the A contract for some of the after pressures in all parts of the circumation are made to equilibrate, and represents the effective driving force for equilibrate, and represents the effective arving force for venous return to the heart (5). Furthermore, we compared venous return to the near (3), runnermore, we compared these hemodynamic variables with that of hemorrhagic shock. MATERIALS AND METHODS

Journal of Epidemiology

Acta Physiol 2007, 189, 15,22

hypotension in rabbits

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t by the Shock Society

vascular beds attenuates the anaphy-

output (CO), which is the systemic circulation eart because left ventricular

threatening allergic usion (1) and initiated a sensitized organism. rapid, precipitous, and al blood pressure with a

## KMU Hospital -1

#### opened in 1974, new wing opened in 2003



938 beds29 clinical dep'ts15 specializedcenters

407 doctors608 nurses207 co-meds

## KMU Hospital -2



inpatients: 750/day outpatients: 1,200/day

# KMU Hospital -3

The 21st Century Multidisciplinary Medical Center established in 2005

- Cancer Treatment Center
- Lifestyle Disease Center
- Rehabilitation Center
- Health Management Center
- Genetic Medicine Center

# **Clinical training in KMU Hospital**

1st year: Internal medicine for 6 mos Surgery for 3 mos EM or anesthesiology for 3 mos

2nd year: Pediatrics & OB/GYN for 3 mos Psychiatry & community medicine for 3 mos Exramural clinical training for 6 mos

# KMU Medical Research Institute

## established in 1989

## 7 divisions:

- Cell medicine
- Advanced medicine
- Human genetics
- Molecular oncology & virology
- Core facility
   Radioisotope Center
   Experimental animal Center
   Morphological Equipment Center
   High-Tech Research Center
- Dermatomycology
- Vision research for environmental health

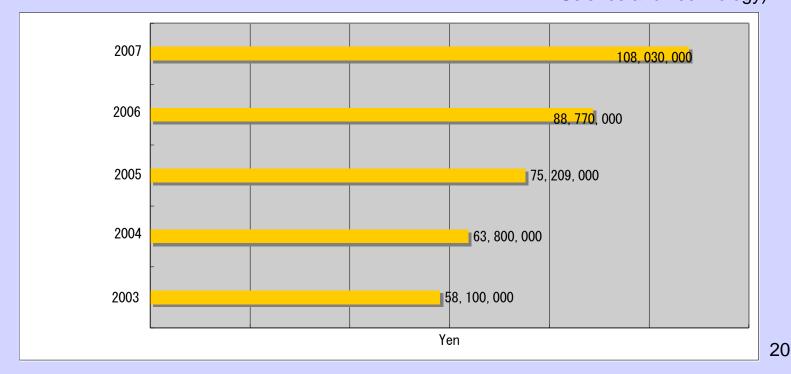




### KMU's research activities -1

## ✓ Grants in 2007: a total of 603,500,000 Yen

✓ Grants from MEXT (Ministry of Education, Culture, Sports, Science and Technology)



## KMU's research activities -2

## Publications of original articles

year	number of articles	(published in international journals)
2006	202	(125)
2006	203	(135)
2005	219	(134)
2004	237	(163)
2003	215	(141)
2002	214	(144)

# **KMU School of Nursing**

- 1973 3-year Nursing College
- 2007 4-year School of Nursing
- 2009 3-year Nursing College will be closed





## Kanazawa Medical University

## Our perpetual CHALLENGE



CHALLENGE

CHALLENGE

CHALLENGE

CHALLENGE

## Kanazawa - A Beautiful City full of culture and tradition



Kenroku Park: one of the three most beautiful gardens in Japan



"Yukitsuri" during winter months (photo by Nakatani)



Kanazawa Castle in autumn (photo by Nakatani)

Thank you for your attention