

# 和歌山県立医科大学神経精神医学教室の「研究」

高橋隼、鶴飼聡

和歌山県立医科大学医学部 神経精神医学教室



## 当教室の主な研究テーマ

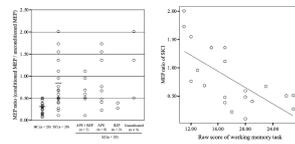
- 経頭蓋磁気刺激 (TMS)
- 神経画像
- 精神疾患とオメガ3脂肪酸
- リワーク (復職支援プログラム)

## 経頭蓋磁気刺激 (TMS)

### 2連発経頭蓋磁気刺激 (ppTMS)



Reduction of cortical GABAergic inhibition correlates with working memory impairment in recent onset schizophrenia  
Shun Takahashi<sup>1</sup>, Satoshi Ueki, Asami Kose, Tadashi Hachimoto, Jun Iwatsuki, Masatoshi Okumura, Tomikuni Tsuji, Kazuhiro Shinosaki



- 皮質内抑制 (GABA機能と関連) が発症早期統合失調症で減弱。
- 皮質内抑制の減弱と作業記憶障害が関連。

### 短潜時求心性抑制 (SAI)

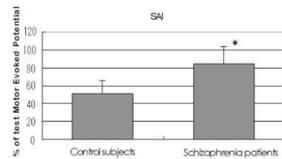
Short Latency Afferent Inhibition in Schizophrenia Patients  
ASEAN Journal of Psychiatry, Vol. 14 (2), July - December 2013: XXXX

ORIGINAL ARTICLE

#### SHORT LATENCY AFFERENT INHIBITION IN SCHIZOPHRENIA PATIENTS

Mitsuru Shoyama<sup>1</sup>, Shun Takahashi<sup>1</sup>, Tadashi Hachimoto<sup>1</sup>, Tomikuni Tsuji<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Kazuhiro Shinosaki<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, Wakayama Medical University, 811-1, Kimidera, Wakayama City, Wakayama 641-8509, Japan.



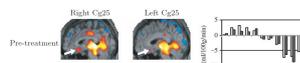
- 短潜時求心性抑制 (アセチルコリン機能と関連) が統合失調症で減弱。



### rTMS治療研究 (うつ病)

Cerebral blood flow in the subgenual anterior cingulate cortex and modulation of the mood-regulatory networks in a successful rTMS treatment for major depressive disorder

Shun Takahashi, Satoshi Ueki, Tomikuni Tsuji, Asami Kose, Masaru Shoyama, Masahito Yamamoto, Masatoshi Okumura, and Kazuhiro Shinosaki

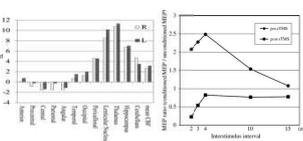


- 治療反応者では術前に上昇していたCg25野の血流が正常化した。
- 治療反応者では治療前後で前頭頭頂部の血流が増加し、海馬と基底核の血流が減少した。

### rTMS治療研究 (耳鳴)

Reduction of cortical excitability and increase of thalamic activity in a low-frequency rTMS treatment for chronic tinnitus

Shun Takahashi<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Tomikuni Tsuji<sup>1</sup>, Takashi Ueyama<sup>1</sup>, Masatoshi Kose<sup>1</sup>, Nobuo Yamashita<sup>1</sup>, and Kazuhiro Shinosaki<sup>1</sup>



- 聴覚野への頻度rTMS治療により耳鳴の客観的音量が減少した。
- 治療前後で視床を中心とした皮質下領域の血流が増加し、皮質興奮性が減弱した。

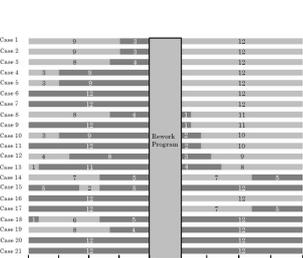
## リワーク研究

Journal of Depression and Anxiety

### Efficacy of a Rework Program for Sick Leave due to Depressive Disorders

Yoko Sakamoto<sup>1</sup>, Shun Takahashi<sup>1</sup>, Masatoshi Yamamoto<sup>1</sup>, Ryoko Yamamoto<sup>1</sup>, Naoyuki Akita<sup>1</sup>, Satoshi Ueki<sup>1</sup>, and Kazuhiro Shinosaki<sup>1</sup>

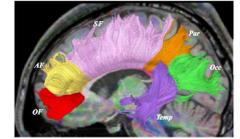
- プログラム介入前後12ヵ月において、プログラム後の就労期間が有意に長く、復職、復職後の再発予防の点においてリワークプログラムが有効であることが示唆された。



## 神経画像



Microstructural abnormalities in anterior callosal fibers and their relationship with cognitive function in major depressive disorder and bipolar disorder: A tract-specific analysis study  
Shinichi Yamada<sup>1</sup>, Shun Takahashi<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Tomikuni Tsuji<sup>1</sup>, Jun Iwatsuki<sup>1</sup>, Kumi Tsuda<sup>1</sup>, Akira Kita<sup>1</sup>, Yuka Sakamoto<sup>1</sup>, Masahiro Yamamoto<sup>1</sup>, Masaki Terada<sup>1</sup>, Kazuhiro Shinosaki<sup>1</sup>



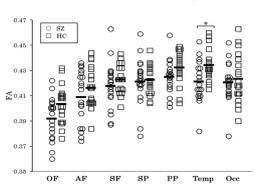
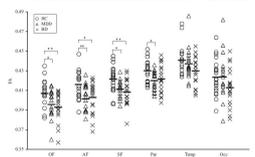
- うつ病群と躁うつ病群で前頭皮質領域を連絡する脳梁の白質神経線維の微細構造異常が認められた。
- うつ病群では脳梁白質の微細構造異常と認知機能障害が関連した。

### Brain and Behavior

Microstructural abnormalities in callosal fibers and their relationship with cognitive function in schizophrenia: a tract-specific analysis study

Yuji Ohsoshi, Shun Takahashi, Shinichi Yamada, Takuya Ishida, Kumi Tsuda, Tomikuni Tsuji, Masaki Terada, Kazuhiro Shinosaki, Satoshi Ueki

- 統合失調症群で側頭葉皮質を連絡する脳梁の白質神経線維の微細構造異常が認められ、同異常と遂行機能障害が関連した。



### Brain and Behavior

Use of T1-weighted/T2-weighted magnetic resonance ratio images to elucidate changes in the schizophrenic brain

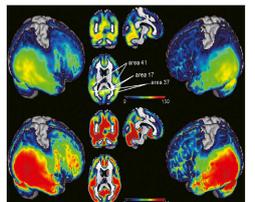
Ken Inatani<sup>1</sup>, Takuya Ishida<sup>1</sup>, Tomohiro Donishi<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Kazuhiro Shinosaki<sup>1</sup>, Masaki Terada<sup>1</sup>, & Yoshiki Kaneko<sup>1</sup>

<sup>1</sup>Department of Neuropsychiatry, Graduate School of Wakayama Medical University, 811-1 Kimidera, Wakayama 641-8509, Japan

<sup>2</sup>Department of Epilepsy Neurophysiology, Graduate School of Wakayama Medical University, 811-1 Kimidera, Wakayama 641-8509, Japan

<sup>3</sup>Wakayama Medical University Clinic, 810-1 Terada, Wakayama 641-0012, Japan

- T1/T2比画像の信号強度はミエリン量を反映する。統合失調症では右被殻の領域のT1/T2比が有意に低かった。

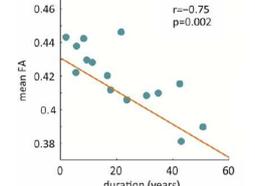
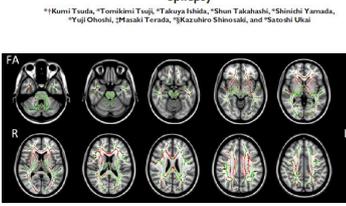


和歌山県立医科大学医学部生理学第一教室との共同研究)

### Epilepsia Open

Widespread abnormalities in white matter integrity and their relationship with duration of illness in temporal lobe epilepsy

Kumi Tsuda<sup>1</sup>, Tomikuni Tsuji<sup>1</sup>, Takuya Ishida<sup>1</sup>, Shun Takahashi<sup>1</sup>, Shinichi Yamada<sup>1</sup>, Yuji Ohsoshi<sup>1</sup>, Masaki Terada<sup>1</sup>, Kazuhiro Shinosaki<sup>1</sup>, and Satoshi Ueki<sup>1</sup>



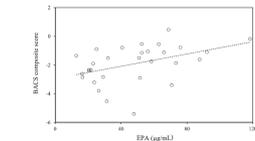
- 側頭葉てんかん患者で広範な脳領域で白質神経線維の微細構造異常が認められ、同異常は罹病期間と関連した。

## 精神疾患とオメガ3脂肪酸

Schizophrenia Research: Cognition

Omega-3 fatty acids related to cognitive impairment in patients with schizophrenia  
Kazumi Satogami<sup>1</sup>, Shun Takahashi<sup>1</sup>, Shinichi Yamada<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Kazuhiro Shinosaki<sup>1</sup>

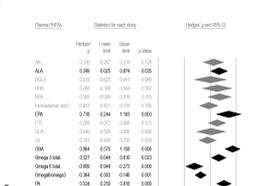
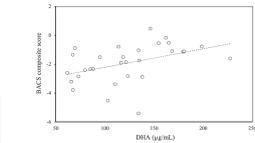
- 統合失調症において血中オメガ3脂肪酸濃度と神経認知機能が有意に相関した。



Prostaglandins, Leukotrienes and Essential Fatty Acids

Relationship between polyunsaturated fatty acid and eating disorders: Systematic review and meta-analysis  
Kazumi Satogami<sup>1</sup>, Ping-Tao Teng<sup>2</sup>, Kazuo Piu Sei<sup>3,4,5</sup>, Shun Takahashi<sup>1</sup>, Satoshi Ueki<sup>1</sup>, Dian-Jeng Liu<sup>1</sup>, Tian-Yu Chen<sup>6</sup>, Pao-Yen Lin<sup>7</sup>, Yen-Wen Chen<sup>8</sup>, Yutaka J. Matsuoaka<sup>9</sup>

- メタアナリシスによって、摂食障害群は健康者群と比較し、血漿中オメガ3脂肪酸が高値となり、血漿・赤血球膜オメガ6脂肪酸が低値であった。



(国立がん研究センターの松岡豊氏とChina Medical UniversityのKuan-Pin Su氏を中心とした台湾グループとの共同研究)