

**Short Communication**

## Stem Cell–Derivative Improves Parkinson’s Disease

Po-Ling Yu, Morris Shaw, and Paulus S. Wang

*ContiNew Medical Co., Ltd., Taipei 111005, Taiwan, ROC*

Five years ago, a 63-year-old woman was diagnosed with Parkinson’s disease (PD) with right upper limb tremor. Right lower limb tremor was noted in the last 2 years. Drugs, including a monoamine oxidase type B (MAO-B) inhibitor, an anticholinergic agent, and amantadine, were administered for 3 years, but the patient’s improvement was limited. TELOXOME, a novel stem cell–derived agent produced by ContiNew Medical, was intravenously infused weekly. Subsequently, lower limb tremor disappeared and upper limb tremor also diminished after the treatment with 4 doses of TELOXOME. The patient’s levels of plasma Cyfra21-1, lactate dehydrogenase (LDH), and tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) were high before treatment but returned to the normal range after 4 infusions.

*Key words:* TELOXOME

### Introduction

Senile dementia, Parkinson’s disease, and Alzheimer’s disease (AD) are common age-related diseases in Taiwan. The incidence of these neurodegenerative diseases is 20% in patients aged 80 years (1). Modern advanced drugs have been developed for treating patients, but with unsatisfactory results (2). Therefore, a new treatment strategy should be developed.

### Materials and Methods

This study administered a novel stem cell–derived agent, TELOXOME, which was developed by ContiNew Medical Co., Ltd., Taipei, Taiwan. In total, 5 mL of TELOXOME was mixed with 150 mL of normal saline and was infused intravenously into a 63-year-old woman for 30 minutes weekly. Her venous blood samples were collected before the first infusion and after the fourth infusion. The analysis of samples

were performed by Le Zen Reference Lab and Central Clinic and Hospital in Taipei, Taiwan.

### Results

The lower limb tremor disappeared after 4-dose treatment with TELOXOME. In addition, the upper limb tremor was also diminished (disclosed by the pretreatment (<http://bit.ly/3vBtZDT>) and post-treatment videotapes (<http://bit.ly/314vq58>)). The plasma levels of Cyfra211 (2.91, <2.37 ng/mL), LDH (333, 140–271 U/L), and TNF- $\alpha$  (10.8, <8.1 pg/mL) were high before treatment but returned to the normal range (Cyfra21-1: 0.79 ng/mL, LDH: 136 U/L, TNF- $\alpha$ : 6.5 pg/mL) after 4 infusions.

### Discussion

Telomerase activators decreased the level of pathological  $\alpha$ -synuclein protein and improved motor symptoms in a mouse model of Parkinson’s disease (5). Clinical trials on patients with early stages of PD or other neurodegenerative diseases, namely AD, are necessary to corroborate the beneficial effects of increasing telomerase reverse transcriptase levels in the brains of patients with neurodegenerative diseases (4). However, there is limited evidence showing abnormalities of telomerase or telomeres in the central nervous system tissues of patients with PD (3). TELOXOME is a mixture of exosomes with telomerase content. Additional studies on this agent are necessary to corroborate the benefits for patients with PD.

### Author Contributions

All authors contributed equally to this study.

Corresponding Author: Po-Ling Yu, M.D., Ph.D., President of the ContiNew Medical Co., Ltd., 7F, No. 500, Sec. 5, Zongshan N. Rd., Shilin Dist., Taipei 111005, Taipei, Republic of China. E-mail: [yupoling@gmail.com](mailto:yupoling@gmail.com)

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## Conflicts of Interest

The authors declare no conflicts of interest.

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