

# Medical travel of integrated medicine for stroke in Taiwan

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## ABSTRACT

Medical Travel is a modern business combining travel and medical care. Thailand was a successful model in this field. Taiwan, with a well-set medical system, has started to promote medical travel since 21th century. Changhua Christian Hospital (CCH) followed the trend and provided a high quality medical service to the world.

Since 2008 CCH has got the accreditation of JCIA (Joint Commission International Accreditation), it proved that the medical quality of CCH has being achieving an international high standard. Beside the traditional services, CCH also provided a unique integrated medicine for stroke patients (IMS). There were 311 patients receiving IMS program from July 2008 to December 2009. Major diagnosis were including Hemorrhage (28.9%), Infarction (62.9%), SAH (1.6%) and others. The result of NIHSS (National Institute of Health for Stroke Score) showed significant improvement after receing IMS program, especially recovery of motor functions ( $p=0.001$ ).

IMS program of CCH is a great medical service for medical travel. We encouraged people from all over the world to come to Taiwan and experience the IMS program.

**Key words**--- Medical Travel, Integrated Medicine, Stroke

## Introduction

Medical Travel is a modern business combining travel and medical care.<sup>1-5</sup> It is driven by high medical expense and the trend of globalization. People seek inexpensive medical care throughout the world. Certain country or regions provide good medical care with travel to attract customers/patients from other places. Thailand was a successful model in this field.<sup>6,7</sup> Taiwan, with a well-set medical system, has started to promote medical travel since 21th

century. Especially after the universal health insurance domains the medical market, which lowers the profit of the medical institutions.<sup>8</sup> Many hospitals have to find a way out. Changhua Christian Hospital (CCH) followed the trend and provided a high quality medical service to the world.

Since 2008 CCH has got the accreditation of JCIA (Joint Commission International Accreditation), it proved that the medical quality of CCH has been achieving an international high standard <sup>9</sup>. Through JCIA, CCH offered many good services to people from other countries. The patients, who receiving medical services from CCH, can get the reimbursement from their original insurance coverage. Beside the traditional medical services, CCH also provided a unique integrated medicine for stroke patients (IMS).<sup>10</sup>

IMS program is an integrated medicine including western medicine and Traditional Chinese Medicine (TCM) for the care of stroke. The patients with stroke were admitted and received a regular western medical care. At the same time, a TCM consultation would perform to the patients. Acupuncture, Chinese herb and Chinese massage would be prescribed to the patients. People gave positive feedback of the IMS. The study demonstrated the effectiveness of the IMS from the past.

<sup>9</sup>.

#### Method

A retrospective study was performed using the patient's chart database of CCH. We collected the in-patients with cerebrovascular diseases (ICD9 code 430-438) who receiving IMS program between July 2008 and December 2009.(Table 1) Gender, age, diagnosis, intervention of western medicine and TCM, NIHSS (National Institute of Health for Stroke Score) and Barthel Index were recorded. Pair t-test and Mix model regression were used to test the effect of IMS. SPSS 12.0 and Microsoft Excel 2003 were used to carry out the calculation. The study had been approved by Institutional Review Board of CCH. (No:101203)

Table 1

Cerebrovascular Disease 430-438

|     |                                                |
|-----|------------------------------------------------|
| 430 | Subarachnoid hemorrhage                        |
| 431 | Intracerebral hemorrhage                       |
| 432 | Other and unspecified intracranial hemorrhage  |
| 433 | Occlusion and stenosis of precerebral arteries |
| 434 | Occlusion of cerebral arteries                 |
| 435 | Transient cerebral ischemia                    |
| 436 | Acute, but ill-defined, cerebrovascular        |

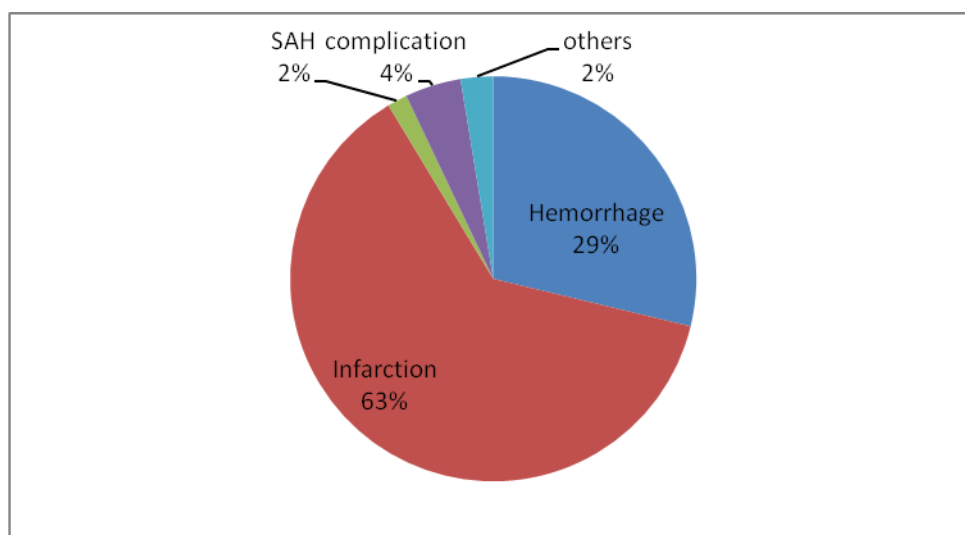
|     |                                               |
|-----|-----------------------------------------------|
|     | disease                                       |
| 437 | Other and ill-defined cerebrovascular disease |
| 438 | Late effects of cerebrovascular disease       |

## Result

There were 311 patients receiving IMS program from July 2008 to December 2009. The subjects included 54.3% male and 45.7% female. The average age was 68.32. The average treatment period was 15.98 days. Major diagnosis were including Hemorrhage (28.9%), Infarction (62.9%), SAH (1.6%) Post Stroke complication (4.5%) and others (2.6%). (Fig. 1) Although all subject received western medicine and TCM at the same time. There were only 88.7% patients receiving rehabilitation in the program. In the analysis of NIHSS, motor function and speech improved significantly ( $p < 0.05$ ) in patients receiving acupuncture and Chinese herb. Facial expression and right leg improvement were noted in the patients with acupuncture and patent Chinese herb. There was no significant difference regarding Barthel index. Overall NIHSS of IMS evaluation showed significant improvement of the consciousness, motor function and speech. In Mixed model regression, NIHSS showed improvement ( $p = 0.001$ ) by control age and treatment period. However there was no significant difference regarding to Barthel Index using the same regression model.

Figure 1

The distribution of the diseases of IMS



## Conclusion

IMS program of CCH is a great medical service for medical travel. It proved an effective and affordable solution for post stroke care.<sup>11</sup> This is a new field for medical travel. We encouraged people from all over the world to come to Taiwan and experience the IMS

program.

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