Prof. Jianzhong Hu: run an academic journal in the spirit of Xiangya

Received: 20 April 2019; Accepted: 30 April 2019; Published: 07 May 2019.
doi: 10.21037/jxym.2019.04.02
View this article at: http://dx.doi.org/10.21037/jxym.2019.04.02

If you think in terms of a year, plant a seed; if in terms of ten years, plant trees; if in terms of 100 years, teach the people.—Quan Xiu, Guanzi

For more than 100 years, Xiangya Hospital has been standing near the banks of Orange Island in Changsha City, the capital city of Hunan Province and trained numerous talents, many of whom are top medical scientists and doctors in China.

By practicing rigorous scholarship, generations of Xiangya people have interpreted the profound connotation of "Xiangya" with their great achievements and unique charm.

"*I am also a member of Xiangya, and I am committed to adhering to and inheriting the spirit of Xiangya*." said Prof. Jianzhong Hu, Deputy Secretary of the Party Committee of Xiangya Hospital, Central South University. In 2016, the *Journal of Xiangya Medicine* (*JXYM*) was founded, carrying the torch for the old and new Xiangya people.

Expert introduction

Jianzhong Hu, MD, Professor of Spinal Surgery, Chief Physician, and Doctoral Supervisor. Currently, Prof. Hu has served as the Vice-President of Xiangya Hospital of Central South University, Director of Ministry of Education-China Mobile Joint Laboratory of Mobile Medicine, and Editor-in-Chief of *JXYM*.

Prof. Hu has long been engaged in the diagnosis, treatment and research of orthopaedics, especially in the study of acute spinal cord injury. Prof. Hu has accumulated rich experiences and gained many achievements in treating spinal degenerative diseases (e.g., cervical and lumbar disc herniation, spinal stenosis, and degenerative spinal deformity), acute and chronic spinal cord injury, tuberculosis, and other spinal infectious diseases. He has won over 20 grants from National Key Research Program, National 863 Research Program, and National Natural Science Foundation of China. Prof. Hu has cultivated more than 40 masters and doctors, published more than 100 papers in domestic and international core journals. He was the winner of Hunan Provincial Science and Technology Progress Award (second and third prizes) and China National Nonferrous Metals Industry Corporation Science and Technology Progress Award (second prize).

Prof. Hu also serves as committee member of Spine Surgery Group, Chinese Orthopaedic Association; member of the Spinal Sports Trauma Group of Chinese Society of Sports Medicine; member of the Standing Committee of Spine Cord Injury, China Association of Rehabilitation of Disabled Persons; member of the Standing Committee of the Spinal Cord Injury Society of the International Spinal Cord Rehabilitation Society; member of the Minimally Invasive Spinal Surgery Group of Professional Committee on Spinal Surgery of Chinese Association of Rehabilitation Medicine; Chairman of Professional Committee of Spinal Surgery, Hunan Medical Association; Vice-Chairman of Professional Committee of Orthopaedics, Hunan Medical Association; Vice-Chairman of Professional Committee of Spinal Cord Injury, Hunan Province Association of Rehabilitation Medicine; editorial board member of *Chinese Journal of Bone and Joint Injury*, *Chinese Journal of Experimental Surgery*, *Chinese Journal of Tissue Engineering Research*, *Orthopaedics Journal* and *China Digital Medicine*; and reviewer of top international journals including *JOR*, *PloS One*, *Spine*, *BMC*, and *JCN*.

From "Yale-China" to "Hsiang-ya"

During the long journey of more than one century, Xiangya has experienced lots of hardships during that turbulent times and suffered the torture of pains. However, generations of Xiangya people have withstood the test of time and defended their cherished brand of "Xiangya" (or "Hsiang-ya" in Wade-Giles Romanization).

In 1901, a group of Yale faculty and alumni launched the Yale-China Association, hoping to come to China to run hospitals and schools through the Yale-In-China Association. In 1903, a Yale-in-China mission was sent to China. After repeated investigations and surveys, Changsha, the capital city of Hunan Province, which was located in the

Figure 1 Yali Hospital in Xipailou Street, Changsha City, in 1906.

Figure 2 New building of Xiangya Hospital in 1918.

Figure 3 The Chinese characters of "Xiang" and "Ya" in the emblem of Xiangya Hospital.

heart of central China with potential radiating effect on the whole country, was selected as a venue for opening hospitals and medical schools. Dr. Edward H. Hume, an American physician working in Mumbai, India, was then invited to take up this task.

Although Dr. Hume was an American, he was born into a Christian family that was doing missionary work in India. He himself was a devout Christian. After receiving his bachelor's degree from Yale University in 1897, he received his doctorate degree from Johns Hopkins University Medical College in 1901. After graduation, Dr. Hume became the only American doctor practicing medicine in Mumbai because both his father and grandfather had been worked in India for many years and established a hospital there. When Dr. Hume received the invitation from Yale-China Association, he hesitated slightly but finally accepted when he heard an assertion—"You will finally open a medical university there"—from Dr. Haran, a member of Yale University mission. In the summer of 1905, Dr. Hume, 29-year-old, left for Changsha with his wife and children and opened a new chapter in his life. In 1906, Yali Hospital, the first western medicine hospital in Hunan Province, was officially established (*Figure 1*).

There are different opinions on the origin of the word "Yali". Some scholars believed that it was derived from the Analects of Confucius: "Zi Suo Yayan, Shi Shu Zhi Li (Confucius sometimes speaks the elegant Ya language, especially when he reads the Book of Songs and the Book of Rites)", whereas others argued that it was just the transliteration of "Yale".

Dr. Hume specially explained the renaming of this institution in his memoir "*Dao Yi Feng Tong* (*Doctors East, Doctors West*)", "The name of Hsiang-ya expresses our hope. 'Hsiang' is the abbreviation of Hunan Province and the first syllable of Yale-China Mission is 'Ya'. Everyone who hears this name will realize its meaning is 'Hunan-Yale'."

In 1914, with the joint efforts of Dr. Hume and Dr. Yen Fu-Ch'ing, a Yale alumnus, the Yale-China Association cooperated with the Hunan Provincial Government to open the Xiangya Medical School and signed an agreement. Yali was renamed "Hsiangya" (a compound of hsiang, denoting Hunan, and ya, denoting Yale-China; transliterated today as Xiangya). Dr. Yen was the first president and Hume also served as the dean of the school, thus formally starting the Sino-US joint higher medical education in the history of Chinese medical education. Yali Hospital was then renamed as Hsiangya Hospital (*Figures 2,3*).

The heritage of Xiangya spirit

With more and more medical work done by missionary doctors like Dr. Hume in various parts of China, medical

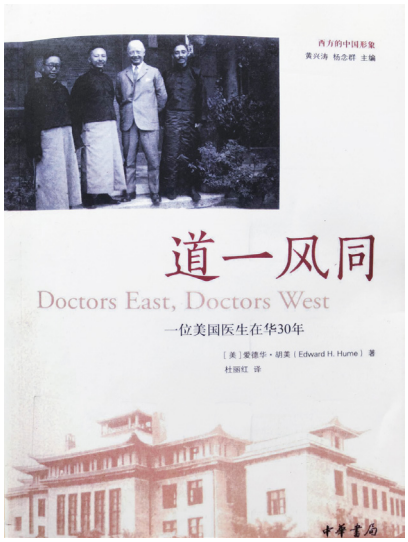

Figure 4 The cover of Dr. Hume memoir "*Doctors East, Doctors West*". Mr. Shi Hu inscribed the title of the book.

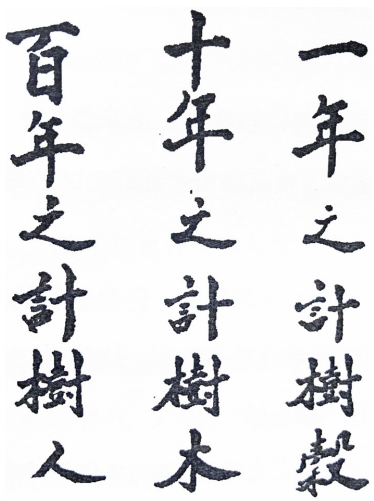

Figure 5 Training talents has always been the top priority in Xiangya.

education activities were carried out widely, which contributed to the development of medical education in China and the training of local doctors. Many church organizations established their own medical schools. Among them Peking Union Medical College, Hackett Medical College for Women, Hsiang-Ya Medical College, and West China Union University were the most influential, and the reputation of "South Xiangya, North Union" has been widely known among the Chinese people.

At that time, Hsiang-Ya Medical College excelled among many other medical colleges in China mainly due to its "Rigorous Scholarship". For example, almost all of the curricula in Hsiang-Ya followed those of American Association of Medical Colleges, and its teaching plan, content, methods, and equipment in the early and late stages were comparable to those of similar institutions in the United States. In 1956, Xiangya launched its postgraduate education programs in clinical medicine, taking a lead in the teaching and training of medical talents in China (*Figures 4,5*).

Xiangya Medical College is the cradle of many top medical scientists and doctors in Hunan Province and across China. It has trained tens of thousands of medical talents for the country. Among them, there are many outstanding medical experts including Xiaoqian Zhang, Feifen Tang, Shaowen Xie, and Zhenpian Li. In 1992, the Chinese government for the first time issued four commemorative stamps titled China's Modern Scientists, among whom there were two Xiangya alumni: Dr. Xiaoqian Zhang, one of the first graduates of Xiangya Medical College, founder of the discipline of gastroenterology in China, and known as "All-rounder in Internal Medicine"; and Dr. Feifan Tang, a microbiologist and immunologist, the first scientist who successfully isolated trachoma virus, nominee of Nobel Prize, and known as "Father of Chlamydia".

From sixteen-character school (college) motto to eight-character college spirit

The college motto of Xiangya has evolved from the sixteen-character version (Gong Yong Qin Shen, Cheng Ai Qian Lian, Qiu Zhen Qiu Que, Bi Shui Bi Zhuan; literally Being fair, brave, diligent, and cautious, Being honest, humane, modest, and clean; Seeking for Truth, and Being Professionalism) to the 8-character version (Yan Jin, Qiu Shi, Tuan Jie, Jin Qu; literally Rigorous, Truth-seeking, United, and Dedicated); however, this unique spirit of "Xiangya" has influenced generations of "Xiangya people" without being eroded by time.

The landmark building of Xiangya Hospital and the "Red Brick Building" with both Chinese and Western styles were designed by Henry Muphy, an American architect, and completed in 1915. It was listed as a cultural heritage site by the Hunan Provincial People's Government in 2011. This is also one of the unforgettable places for generations of "Xiangya people".

"*In recent years, Xiangya Hospital has vigorously promoted specialty construction and "Famous Xiangya Doctors" program.*

Figure 6 Prof. Hu in his work.

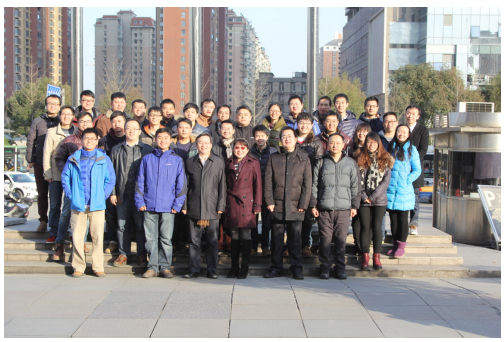

Figure 7 Prof. Hu and his team.

At present, the hospital has 3,500 beds, 88 clinical and technical departments and sub-specialties, with a total staff of 6,750. The hospital has established partnerships with more than 60 hospitals in Hunan Province in patient management (e.g., referral, technical guidance, and support) and has also cooperated with 23 hospitals in 10 provinces across China. The success rate in rescuing emergency and critical patients in Xiangya Hospital has exceeded 90% and the improvement rate of difficult and complex cases is also more than 90%, among which types C and D cases account for more than 60%. Our hospital takes a lead in the diagnosis and treatment of glioma and skull base tumors. The minimally invasive endoscopic sinus surgery and the aortic artery replacement technique are widely recognized by patients across China. Minimally invasive radical surgery for early esophageal cancer and hand microsurgery, and other procedures are leading in the world." Prof. Jianzhong Hu proudly introduced the hospital during the interview.

"*Xiangya Hospital has always been at the forefront of relief efforts during emergencies or natural disasters. In its early years, the hospital actively involved in the diagnosis and treatment of measles, diphtheria, and other infectious diseases. During the Wenchuan earthquake disaster in Sichuan and the Ebola epidemic in Africa, doctors and nurses from Xiangya have come forward to first against diseases, upholding the tradition and adhering to the mission of serving the society wholeheartedly.*"

As time goes by, the spirit of Xiangya echoes among yesterday, today and tomorrow, encouraging Xiangya people to strive for a more brilliant future.

Insistence on excellence in spinal surgery

Prof. Hu loved sports in his youth and was a good observer of life in his student days. Finally, he chose orthopaedics as his field and has been engaged in spinal surgery for 33 years (*Figure 6*).

"More traffic accidents and construction accidents occur with the socioeconomic development, and more patients suffer from spinal fracture and spinal cord injury, especially acute spinal cord injury. Acute spinal cord injury is a serious traumatic disease of the central nervous system and also a severe complication of spinal surgery. It has high mortality rate, and the survivors often become disabled or deformed."

According to a report released in the 2017' Xiangshan Scientific Conference themed Key Scientific Issues of Spinal Cord Injury Regeneration and Repair held in Beijing, there are more than 2 million patients with acute spinal cord injury in China. However, no effective method has been available for recovering the function of the injured nerve. Huge medical resources have been spent on it, bringing heavy economic burden to families and society. In addition, the exact pathophysiological mechanisms of secondary injuries including inflammation, ischemia, lipid peroxidation and apoptosis remain unclear. Therefore, finding an effective treatment for spinal cord injury remains an urgent task in basic research and clinical practice.

"*It has long been my research interest. In recent years, I have done a lot of research on the apparent regulation of neurovascular units and the application of stem cells in the treatment of acute spinal cord injury.*" Prof. Hu said.

China is rapidly aging. By 2030, the proportion of the elderly population in China may exceed 25% or even be close to 30%. About 300 million people will be over 60 years old. An aging society faces a series of serious medical problems. Prof. Hu's team has also devoted efforts to the study of degenerative diseases of the spine, expecting to help patients and contribute to society (*Figure 7*).

Founding of the *JXYM*

Having been a surgeon, researcher, and hospital leader for

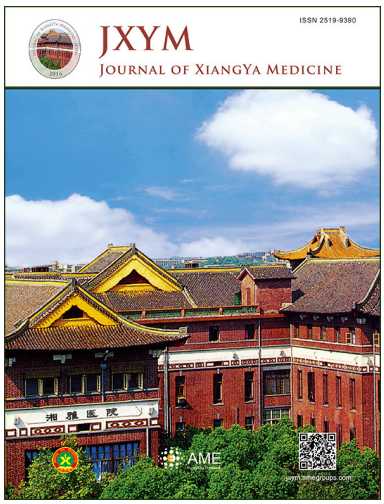

Figure 8 The cover of *JXYM*.

30 years, Prof. Hu has fully recognized the importance of medicine for the society and the people. "*We are looking forward to communicating our knowledge to more peers with modern tools, so as to benefit the medical staff, the patients, the general public, and the whole society.*" He told us.

With such an expectation and under the support of Xiangya Hospital and many experts, English-language medical journal *JXYM* was officially launched in 2016 (*Figure 8*). Since its inauguration, *JXYM* aims to describing novel findings in the broad fields of laboratory, clinical, and public health research, providing current and practical information on diagnosis, prevention and clinical investigation. With an international perspective, it relies on a national Editorial Board, with inputs from overseas alumni of Xiangya. One of the key tasks of the journal is to introduce to the world the latest research achievements of Xiangya.

Up to now *JXYM* has published 175 articles covering plastic surgery, thoracic surgery, orthopaedics, and basic research. Based on the excellent disciplines of Xiangya Hospital, the journal constantly expands and enriches its content. To help readers to have a deeper understanding of a focused topic and facilitate better communication between Chinese and foreign doctors. *JXYM* actively invites experts from different fields to lead special issues. For instance, Professor Tang Juyu from Xiangya Hospital and Professor Geoffrey Hallock from Sacred Heart Hospital, Pennsylvania have jointly led a special issue on "Perforator Flap".

"*Clinicians often get confused during their work. By establishing multidisciplinary teams (MDT), doctors from different disciplines are invited to share their knowledge, thus providing a more comprehensive understanding of a specific disease, optimizing treatment options, proposing more effective treatment methods, and thus achieving better outcomes. The benefits of MDT are obvious in clinical settings. Then, how to expand and deepen such benefits? Actually we have started an iMDT column in JXYM. By selecting valuable cases and inviting experts from different fields to participate in the discussions, we can break up the boundaries of treatment models. As the carrier of records, our journal allows doctors and scholars in their different training stages to participate in learning, thus expanding the scope of communication.*" Prof. Hu explained his expectations for the iMDT column of *JXYM*.

According to Prof. Hu, the future plans of *JXYM* are mainly focused on three aspects: launching an internationalized MDT case discussion column; inviting international experts to conduct multidisciplinary discussions on the latest advances in a single disease, thus forming a special issue or consensus with wide applicability; and introducing China's recent tools and achievements in multicenter clinical research, regional high-risk disease surveys, and prospective studies to international peers.

Of course, running a journal well is not a matter of overnight. *JXYM* is still in its infancy and there is still a long way to go. "*We hope JXYM will uphold the spirit of Xiangya and finally become an internationally recognized general medical journal.*" Prof. Hu expressed his passion and enthusiasm for the future of *JXYM*.

Conversation with Prof. Jianzhong Hu

JXYM: In recent years, Xiangya Hospital has vigorously promoted the specialization construction and the"Famous Xiangya Doctors" program. Would you tell us more about these efforts?

Prof. Hu: Specialty construction is the most important basic construction in large-scale general hospitals. Through sub-classification and integration of disciplines on the basis of traditional specialties, sub-specialties are divided and a more refined specialty system will be established. Xiangya Hospital now has 25 national key clinical specialty construction projects. Meanwhile, the implementation of the Famous Xiangya Doctors program hopes to train more well-known doctors, so as to promote both clinical services and scientific research and facilitate the heritage of the traditional spirit. Up to now these two projects have remarkably promoted discipline construction, medical

research, and teaching in our hospital. Many excellent medical scientists and doctors have benefited from them, which also optimized our service to numerous patients who seek medical treatment in our hospital.

JXYM: What are the future plans of Xiangya Hospital?

Prof. Hu: As a large hospital and regional medical center, Xiangya hospital needs to continuously train and develop its staff members and constantly improve its health care capabilities, thus providing better services to our patients and helping the government implement the health policy. We are also paying close attention to the aging-associated diseases and have made a series of plans for the health care (especially disease prevention and treatment) of the elderly. In the new era, Xiangya Hospital pays special attention to the application of modern technology, the communication of experiences, and the popularization of health knowledge. This is also why we decided to launch *JXYM*. We hope this journal will bring international modern medical technology to China, so that Chinese doctors and nurses have a fast access to new research data; meanwhile, the journal can also help to share the experiences of doctors in our hospital and across China with the international peers. Smooth communication will definitely facilitate the training of new talents.

JXYM: With the development and maturity of stereotactic technology, image fusion algorithm, and navigation technology, robotic spine surgery emerges at a historic moment. How about its development in China? Are there any urgent problems to be solved?

Prof. Hu: With the joint efforts of neurosurgeons and orthopaedicians, spine surgery has made remarkable achievements, stepped into the era of minimally invasive and intelligent surgery, and gradually developed into a unique group of disciplines. With the development and maturity of stereotactic technology, image fusion algorithm, and navigation technology, robotic spine surgery has emerged and promoted the popularization and application of precise spinal surgery. Such minimally invasive procedures are featured by reduced perioperative opioid consumption, shorter hospitalization time, and lower incidences of adverse events. In addition, robot-assisted technique can significantly increase the accuracy of screw placement, which not only reduces the operating time and intraoperative radiation exposure but also effectively lowers the risk of physical injury. It brings more safe and effective surgical procedures for patients. However, spinal surgeons still face many challenges when performing a robotic spine surgery.

JXYM: Are there new advances in epigenetics of spinal cord injury?

Prof. Hu: Epigenetics is defined as the genetic change of phenotypes but without change of genotype itself. Epigenetics mainly includes histone modification, DNA methylation, and non-coding RNA regulation. In recent years, more evidences have demonstrated that epigenetic changes play a key role in the induction and maintenance of acute spinal cord injury. Abnormal methylation of genes, altered histone modification, and imbalanced non-coding RNA expression are involved in a series of pathological processes including neuroinflammation, angiogenesis, apoptosis, and nerve regeneration after spinal cord injury. Therefore, epigenetic modification is a new way to understand and treat acute spinal cord injury.

JXYM: How about the research on neurovascular units at home and abroad?

Prof. Hu: Neurovascular unit is a structural and functional unit composed of neurons and vascular endothelial cells. The integrity of its structure is essential for maintaining the homeostasis of nerve function. Domestic and foreign studies have confirmed that primary spinal cord injury can lead to structural damage of neurovascular units and progressive damage of spinal cord nerve function. After an acute spinal cord injury, a large number of inhibitors are released locally in spinal cord, leading to the disorders in local microenvironment, which hinders the regeneration of neurovascular units and contains the recovery of spinal nerve function. Therefore, promoting the regeneration of neurovascular units is a key target in improving the nerve function of spinal cord.

JXYM: What's the role of stem cells in the repair of nerve function after spinal cord injury?

Prof. Hu: Stem cells have the ability of self-replication and multi-differentiation and play an important role in the repair of nerve function after spinal cord injury. It has been confirmed that transplantation of stem cells at the injured site can promote the regeneration of degenerated white matter axons; in addition, it can regulate the local

microenvironment and change the process of immune response after injury. Some authors have investigated the clinical treatment of incomplete spinal cord with autologous stem cells. In February 2019, Japan approved the world's first clinical trial on the treatment of spinal cord injury with iPS, which is a powerful impetus to the clinical application of stem cell therapy. Many Chinese teams are also working in this field. My team is also carrying out basic and clinical research on umbilical cord mesenchymal stem cells for spinal cord injury.

JXYM: In your opinion, which principles need to be applied in running JXYM?

Prof. Hu: The pursuit of truth and professionalism will be the core ideas.

JXYM: What's the mission of JXYM?

Prof. Hu: *JXYM* is committed to reporting new clinical advances by focusing on both clinical and basic researches". With an international perspective, it relies on a national Editorial Board, with inputs from overseas alumni of Xiangya. One of the key tasks of the journals is to introduce to the world the latest research achievements of Xiangya.

Acknowledgments

Parts of this article have been adapted from Dr. Hume memoir "*Doctors East*, *Doctors West*". Dr. Zhen Yang from Zhongshan Hospital Affiliated to Fudan University also contributed to this article. We also thank Dr. Jiangwei Guo of Xiangya Hospital for his kind help during this interview.

doi: 10.21037/jxym.2019.04.02
Cite this article as: Liao L, Li S, Zhou L, Yang D, Wu Y. Prof. Jianzhong Hu: run an academic journal in the spirit of Xiangya. J Xiangya Med 2019;4:20.

Funding: None.

Footnote

Provenance and Peer Review: This article was commissioned by the editorial office, *Journal of Xiangya Medicine*. The article did not undergo external peer review.

Conflicts of Interest: All authors have completed the ICMJE uniform disclosure form (available at http://dx.doi.org/10.21037/ jxym.2019.04.02). Lili Liao, Shaoling Li, Litao Zhao, Dan Yang and Yanqing Wu report that they are full-time employees of AME Publishing Company (publisher of the journal). The authors have no other conflicts of interest to declare.

Ethical Statement: The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

(Science Editors: Lili Liao, Shaoling Li, Litao Zhou, Dan Yang, Yanqing Wu, JXYM, jxym@amegroups.com)