IN MEMORIAM

DR U SAN BAW
(1922 - 1984)

Dr U San Baw, who, for the first time in medical history pioneered the technique of ivory hip prosthesis in replacing ununited fractures of the neck of femur was born of parents, Dr U Thaw Zan and Daw Si Si, on 29 June 1922 at Tapon, Tharawaddy District.

He attended the St. Agnes Convent at Kalaw and St. Paul's High School, Rangoon for his primary education. For his middle and high school studies he attended St. Paul's High School from 1936 to 1942.

From 1944 to 1950 he pursued his medical studies at the Medical College in Rangoon University. He was awarded the degree of M.B.B.S. from Rangoon University in March 1950.

He served as resident in the General Surgery and Casuality Department at the Rangoon General Hospital from June 1950 to May 1951.

From June 1951 to April 1954 he was under training and counterpart to Professor P. F. Greene. During that period he helped establish the Department of Orthopaedics at the Rangoon General Hospital.

He was sent as a State's scholar for postgraduate medical studies to the United States of America in 1954. He undertook postgraduate orthopaedic work and completed his residency in orthopaedic surgery at the hospital of the University of Pennsylvania, in Philadelphia. He was awarded the M.S. (Ortho) degree by the University of Pennsylvania in February 1958.

He returned to Burma after completion of his studies in 1957. He was appointed as Head of the Department of Orthopaedic Surgery and Lecturer in Orthopaedics at Medical College, Mandalay in November 1957. He played an instrumental role in setting up the teaching curriculum of Orthopaedics at the Mandalay Medical College and later Institute of Medicine, Mandalay. His research in the use of ivory prosthesis for ununited fractures of the neck of femur was initiated during that period.

It is said that Dr U San Baw formed the idea of using ivory, a natural and biological, material instead of metal the commonly used element, as a hip prosthesis while he was studying in the United States.

He correctly assumed that ivory would have a better biological bonding quality than metal as a hip prosthesis and would also be cheaper and more easily obtainable than metal in Burma.

In 1960, Dr U San Baw successfully used an ivory prosthesis to replace the broken neck of femur of an 83 year old Buddhist nun, Daw Punnya. From 1960 1969, Dr U San Baw used over 100 personally-designed ivory hip prosthesis to replace broken neck of femurs. The age of the patients ranged from 24 to 87. From 1969 to 1980, the time of Dr U San Baw's retirement, an addition of over 200 hip-prosthesis were used (a total of over 300 ivory prosthesis were used during his career). For each replacement by ivory prosthesis the design of the ivory stem has to be specially made and synchronized to fit in with the particular patient's anatomy. The physical, mechanical, chemical and biological qualities of ivory are closely related to the human bone, and hence a 'biological bonding' between it and the bone the tissues and blood vessels near the prosthesis. This was evident in the histological sections done several years after the insertion of the prosthesis.

Dr U San Baw read several papers about his research in the use of ivory prosthesis both domestically and abroad. "The use of ivory as an Endoprosthesis" was read at the Burma Medical Conference held in Mandalay in 1962. The paper "Experiences Gained in the Use of Ivory Femoral Head Prosthesis" was read at the Burma Medical Research Conference in 1967 at Rangoon. He was invited by the British Orthopaedic Association to personally deliver the paper "Ivory Femoral Health Prosthesis for the Management of Ununited Fractures of the Neck of Femur" at the British Orthopaedic Association Conference held in London from 23 to 27 September, 1969. The Conference was attended by Orthopaedic Surgeons from the Americas, Europe, Africa and Asia. Dr U San Baw's work was acknowledged as a remarkable success in the field of orthopaedic surgery. (An extract of the paper read by Dr U San Baw was published in the Journal of Bone and Joint Surgery, volume 52B, pp 173). A description of Dr U San Baw's work can be read in the Working People's Daily and Loktha Pyithu Nezin of 17 September 1979 and also in the article "Burma's First Scientific Gift to Humanity" in Forward magazine of 15 November 1969 by Tha Ban. This was a translation of an article in Burmese in a Burmese magazine.

Other significant papers read by Dr U San Baw at major scientific conferences were "Biological Bonding of Bone and Ivory" at the Burma Orthopaedic Conference held in Taungyi in 1971; "Preliminary Report on the Use of Ivory Powder for the Surgical Managment of Giant Cell Tumour of Bone" in 1972 at the Burma Medical Conference in Mandalay and "A New Surgical Technique for the Treatment of Congential Psuedathrosis of the Tibia" at the Burma Medical Conference held in Rangoon in 1973 and was subsequently published in the Journal of Bone and Joint Surgery.

From June 1975 up to the time of his retirement in October 1980, Dr U San Baw was the Chief of the Department of Orthopaedic Surgery at the Rangoon General Hospital and Lecturer in orthopaedics

at the Institute of Medicine I, Rangoon. In 1976, Dr U San Baw visited the Orthopaedic Departments and Hospitals in Hong Kong, Singapore, Malaysia and Australia. He lectured and explained about his work in ivory femoral head prosthesis at the hospitals and Medical Schools in those countries receiving widespread acclaim with several local newspapers mentioning about his work.

In addition, to his research work in ivory he also made significant contributions to other surgical fields. He developed a new technique for the treatment of congenital pseudarthrosis of the Tibia and at least 15 patients were treated by this new technique. He had conducted clinical research regarding the use of ivory powder in place of cancellous bone to pack resulting cavities of giant cell tumour of bone after curettage. At least 27 cases were treated through the use of this method. Ivory powder was also successfully used for packing bone cavities as a result of other pathological processes as in aneurysmal bone cyst, simple bone cyst, chonedryonyxoid fiborma, fibrous dysplasias and chrondroclastomas. Under Dr U San Baw's supervision replantation of completely amputated hands was undertaken at the Traumatic Surgery Ward at the Rangoon General Hospital. Replantation of the completely amputated arms of at least six persons was successfully accomplished.

Orthopaedic Surgeon, Dr U San Baw, retired in October 1980 from public service. During his retirement he actively participated in various medical activities of the Burma Medical Association, Mandalay, serving as Vice-President as well as the Patron of it. At the time of his death he was the Partron of the Upper Burma Medical Association.

Dr U San Baw passed away on 7 December 1984 in Mandalay due to complications arising from lung cancer. He is survived by his wife, Dr Daw Myint Myint Khin, retired Professor Medicine at the Mandalay Institute of Medicine and a son.

Dr Daw Myint Myint Khin has donated a sum of thirty thousand kyats to a fund held in trust by the Upper Burma Medical Association, Mandalay. It is intended that a Committee be formed under the aegis of the Department of Medical Research for the purpose of establishing, selecting and awarding an annual prize entitled "Burma Medical Association - Dr San Baw's Prize for Research". It is learnt that after its formation, the Committee will select from among the Medical Papers submitted to it for consideration as well as other Medical Papers published separately to award to the best paper "Dr San Baw's Prize for Research". Though the paper must be on a medically relateed topic, its author need not necessarily be a doctor, it is learnt. It is further learnt that persons wishing to inquire about the particulars of the prize or those wishing to contribute to the fund can make inquiries at the Upper Burma Medical Association, 31st Street, between 70th and 71st streets, Yan Myoe Lon Quarter, Mandalay, Burma.

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SURGEONS HEAR OF U SAN BAW'S SUCCESS WITH IVORY BONES

LONDON, Oct. 15 - When Burmese Doctor U San Baw, who has performed more than 100 successful operations involving the replacement of the human hip bone with elephant ivory, stepped to the podium at the Royal College of Surgeons here in September, a distinguished group of doctors and surgeons listened intently.

Dr. U San Baw carried out his first successful ivory transplant in 1960 on an 83-year-old woman, he told the British Orthopedic Association meeting. He pioneered the use of elephant ivory as a suitable replacement for ununited hip bones, particularly with elderly people.

Dr. U San Baw, who is orthopedic surgeon at the General Hospital in Mandalay, plans to return to Burma October 18. His wife, Dr. Daw Myint Myint Khin, also has been in the United Kingdom visiting medical centers.

His work is sponsored by the Government of Burma who awarded him a research grant. At 45 he has achieved a great deal of prominence throughout the world. From 1954 to 1957 he studied under Doctors Paul C. Colonna and J.T. Nicholson in Pennsylvania. On his return to Burma in 1957 he began his resrarch on ivory, which led to his first successful ivory transplant early in 1960.

Unlike inorganic materials used by doctors around the world for bone replacement, ivory is cheap and plentiful. Dr. U San Baw says there are some 2,000 elephants in captivity with an abundant supply of ivory. He emphasized that there was no question of the elephants being slaughtered for their tusks.

"Eventually the elephants die and the ivory is sold to the public. They lead a useful life in Burma and are used extensively for carrying and hauling timber," he said.

When Dr. U San Baw returned to Burma in 1957 he came upon the idea of using elephant ivory instead of the more conventional metals -- titanium and vitallium which are costly to produce. His hip joint replacement costs as little as $720 and the operation can be carried out in just half-an-hour.

How did Dr. U San Baw find the man to carve his ivory protheses? He went to a craftsman who specialized in ivory carving, taking with him a wooden model of his hip joint and explained exactly what he wanted. "At first," says Dr. U San Baw "he was reluctant to carry out the work, but when he found out the good I was trying to do he readily agreed." He adds with some pride," both the carver's father and grandfather were ivory carvers."

The doctor is very pleased with results he has achieved.

The union between the ivory and bone is excellent and does not

require cement as do titanium and vitallium. In all cases, Dr. U San Baw's patients have been able to walk again after their hip operations. All were up within a week and some even walked home.

The paper Dr. U San Baw presented to the British Orthopedic Conference was entitled" Ivory Protheses for Ununited Fractured Neck of the Femur." It dealt briefly with the mechanical, physical and chemical properties of ivory and reviewed the first 20 patients with a follow-up period ranging from one to nine years. The major part of the paper was devoted to his work since 1960 on his fermoral head protheses made of ivory for the treatment of non-union of the neck and femur.

After he had presented his paper a group of African and Asian doctors gathered around him to examine one of his ivory hip prothesis. "You see," he explained, "these doctors are from countries where there is an abundant supply of ivory. They can undertake similar work without too much difficulty."

During his stay in England Dr. U San Baw also visited other orthopedic research centers.