

CASE REPORT**HUMANITARIAN RESCUE MEDICAL ACTION FOR PATIENT WITH ADVANCED LOWER EXTREMITY LYMPHEDEMA**

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“For the afflicted by it, the disease brought both physical and mental suffering”

- L. Barinka, 1984 (cited by Co-Editor Leo Clodius, MD, in his review)

ABSTRACT

No clear data exists regarding the initiating process of medial care delivery in cases of humanitarian rescue for advanced and debilitating patient conditions. We report on the delivery of care from a hospital located in a rural area in Southern Taiwan to a desperate patient from a country across the world in Lima, Peru. The patient is a 45-year old woman with unilateral severe, progressive primary lymphedema of 26 years who was scheduled to undergo a high femoral amputation for infections, lymphatic leak, inability to ambulate, and symptomatic cardiomegaly. All arrangements for care, including dental restoration, were made by our hospital in collaboration with the government of Peru. Upon multi-departmental consultation, an 8-hour Charles procedure was performed removing 47 kg of lymphedematous thigh and leg tissue. Eleven months postoperatively the patient is healed and ambulating without assistance. Her weight dropped from 120 to 73 kg. This case of humanitarian action demonstrates intense collaboration and coordination between two governments with dialogue, diplomatic success, a lymphedema surgical feat, and ultimately a successful outcome for the patient.

Keywords: lymphedema, Charles procedure, elephantiasis

Although the pathogenesis and pathophysiology of lymphedema of the lower extremity is gradually being elucidated, methods of treatment of this physically debilitating disease are more slowly evolving. Lymphedema has no cure and most methods of treatment are palliative, with some proving to be more effective than others. This condition develops as a result of congenital abnormalities or from acquired deficiencies in lymphatic drainage, and while some patients are difficult to classify, treatment of the disease is generally similar and leads to comparable outcomes with conservative management as the mainstay of treatment.

We present a case in which conservative treatment was not successful for 26 years. Our university hospital is located in rural Kaohsiung County in Southern Taiwan and was built with the ideal of a healing environment in a modern hospital. During a non-related, craniofacial mission to Peru, one of our previous fellows was consulted by a medical student on a very severe case of long-standing lower limb lymphedema. The patient is a 45 year old woman who suffers from severe primary lymphedema with



Fig. 1. Preoperative view of patient with 26 year history of primary lymphedema of the right limb.

recurrent infections and lymphatic-cutaneous leakage of the right leg for 26 years (*Fig. 1*). The condition was progressive and associated with cardiomegaly, which increased the lymphatic load despite continuing conservative therapy and one previous incision and drainage procedure of a thigh abscess. Conservative therapy included the use of compressive garments at all times and bed rest with limb elevation to the extent possible. Upon standing, due to the pooling of blood and lymph in the limb, orthostatic hypotension would ensue and normal urinary passage was also very difficult due to the excess of thigh tissue extending past the midline. In addition, osteoarthritic changes were evident in the knee and calcaneus due to the weight of the limb. Her preoperative weight was 120 kg. A high, above knee amputation was planned for the patient due to recurrent infections and wound breakdown. Following consultation with our senior author (H.C.C.), who has extensive experience with lymphedema (1), an attempt at limb salvage was agreed upon among all parties and transport arrangements made for

the patient and her son. If this problem were left unresolved, we believe both her cardiomegaly would progress and potentially become life threatening and/or sepsis could ensue. An emergency room resident was sent to Lima, Peru to escort the patient to Taiwan.

A treatment plan was coordinated among a total of 12 departments in the hospital and approved by the hospital's internal review committee. Specialties included: plastic surgery, cardiology, pulmonary, nutrition, infectious diseases, psychiatry, rehabilitation, hematology, radiology, social work, intensive care, and administration. Intensive hemodynamic monitoring was performed by both a cardiologist and anesthesiologist during an 8 hour Charles procedure from the forefoot to the mid-thigh (2). During the procedure, the limb was exsanguinated mildly since too much may lead to increased blood volume and subsequent fluid overload and too little may lead to significant blood loss. In addition, due to the exsanguination, the lymphatic load entering the circulation could lead to pulmonary problems and a transient bacteremia could result from the bacterial



Fig. 2. Five month postoperative view following Charles procedure for lymphedema.

load entering the circulation. The resected specimen weighed 47 kg and the patient did not require a blood transfusion. Eleven months postoperatively the patient is healing without recurrence and ambulating without assistance. Her weight dropped from 120 to 73 kg (*Fig. 2*). In addition, since she only had one tooth (upper left incisor) with obvious difficulty chewing, the mayor of Taiwan approved the finances for complete dental restoration prior to her departure back to Lima, Peru.

During the patient's hospital stay, the Commercial office of Peru located in Taipei

frequently phoned the hospital to inquire about the patient's condition and expressed their gratitude to the Taiwan government and the hospital. This case of humanitarian action has demonstrated intense collaboration and coordination between two governments, a diplomatic success, and a surgical feat providing a successful outcome. Although the key to bring about lasting change is to address the overwhelming prevalence of disease and to grow the local volunteer spirit as well as long term sustainable initiatives and programs (3), we feel that this rescue mission is a first step in this larger process. In addition, this Case Report continues to reinforce the effectiveness of the Charles procedure in changing the daily life of these specifically incapacitated patients who are without access to options of standard care.

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