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# PROBLEMS OF INTERNATIONAL "COMMITTED PARTNERSHIP" COOPERATION SUCCESSFUL CASE OF RECONSTRUCTION SURGERY IN JAPAN FOR LAOTIAN CHI WITH SEVERE FACIAL ANOMALY

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## ABSTRACT

*Background: Various models of international medical aid have been proposed in many developing countries, including the donation of material, visited by surgical teams, and surgical outreach programs. However, they have limitations in the treatment of patients with severe or rare diseases. Object: We present the successful treatment of a Laotian child with cleft face anomaly, who underwent reconstruction surgery in Japan, and highlight the problems of a committed partnership system. Case presentation: A 2-year-old Laotian girl with severe facial anomaly required revision surgery; however, no physicians in Laos accepted her for treatment. An international medical cooperation volunteer group campaigned to raise funds for her treatment, and our medical center accepted their offer to perform the surgery. Surgery was performed successfully, and the patient went back to Laos 2 weeks after surgery. Conclusion: When international "Committed Partnership" cooperation is required, several challenges can arise, including expenditure, choice of the medical centre, period of stay, lack of information, special design of surgery, different lifestyle and manner, and language barrier. Although many challenges confronted, we believe that partnerships between surgical centers in developed countries and medical volunteer groups in developing countries can succeed with their efforts and noble spirit.*

**Keywords:** International voluntary medicine, Committed partnership, Surgery in Japan, Laotian child, Facial anomaly, International medical aid" and" committed partnership system".

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## Contribution/ Originality

The paper's primary contribution is explaining the specific difficulty of international medical aid, and showing the way to improve variable problems of international health cooperation in this Committed Partnership system.

## 1. INTRODUCTION

Various models of international medical aid have been proposed to address the need for specific care and treatments. Especially in many low- and middle-income countries. Surgeons or surgical teams make short trips to perform surgery and teach techniques as the usual model of surgery-related international aid, and many international volunteer groups also provide reconstructive plastic surgery (Bernstein, 2004; Schneider *et al.*, 2011; Howe *et al.*, 2013). However, the success of this philanthropic travel system is limited, because of the visiting periods, surgical equipment and tools, and each surgeon's skill and specialities. If the patient suffers from too rare



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or severe a disease to treat for the international surgical aid team or local physicians, the patient cannot avoid undergoing special surgery in a foreign country.

We present the successful case of a Laotian child with severe cleft face anomaly, who underwent reconstruction surgery in Japan, and highlight problems of international health cooperation in this Committed Partnership system.

## 2. CASE REPORT

A 2-year-old Laotian girl with severe facial anomaly underwent reconstruction and revision surgery in our Japanese Medical Center. We progress how she was introduced and underwent surgery.

### 2.1. Progress of the Patient Who Underwent Treatment in Japan

A Laotian who lived in Russia sent a message to an international medical cooperation volunteer group (Japan Heart Nonprofit Organization) via Facebook saying; "Please help a Laotian 2-year girl with congenital facial anomaly. She has a cleft in the face, and cannot close the mouth. Eyeball is dislocated." As no physicians in Laos accepted her for surgery, the volunteer group campaigned to raise the funds for her treatment in Japan. They saved more than 1,600 dollars, and asked our medical center if the patient could undergo the reconstructive surgery. We accepted their offer, and requested the patient's medical information.

However, the information we received only included her name, age, an electrocardiogram, and 2 portraits, because she lived too far from a hospital to consult a doctor. Four people, including the patient, her father, a nurse, and an interpreter (Laotian to English) came to our medical center. Their traveling expenses were paid for by donations, and their living expenses and her treatment fee were covered by our medical center. As the relief fund was limited, their period of stay in Japan was planned to be no longer than 3 weeks.

### 2.2. Surgical Treatment in Japan

On the first examination, the patient had a severe congenital maxillofacial deformity, including a left cleft face (Tessier classification No.4; Orbital clefts, cleft lip), right lateral cleft (Tessier classification No.7; Macrostomia), wide cleft palate, and pharyngeal hypoplasia (Figures 1)(Tessier, 1976).

**Figures-1.** The picture shows the pre-operative appearance of the patient with severe congenital maxillofacial deformity, including a left cleft face, right macrostomia. and a wide cleft palate and pharyngeal hypoplasia.

Computed tomography revealed the left maxillary bone and orbital floor defect, which had caused dislocation of left eye ball (Figure 2).

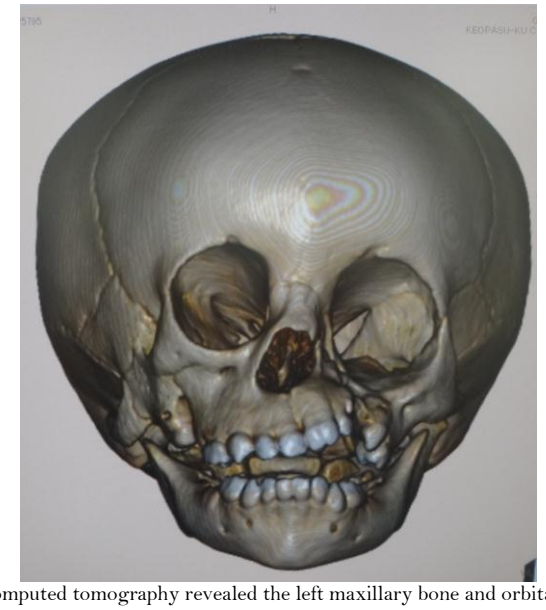
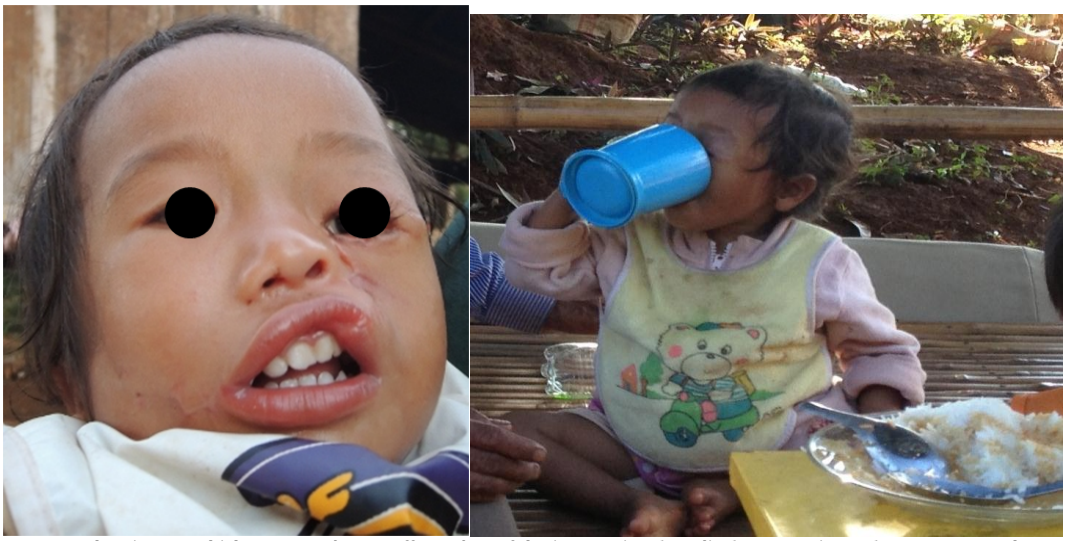


**Figure-2.** Computed tomography revealed the left maxillary bone and orbital floor defect.

Pre-surgical physical examinations and checks by an anesthesiologist were performed for 2 days. We surgeons fully informed her father about the operation via an interpreter, and he gave consent.

Surgery was performed under general anesthesia on the 4th day, consisting of palatoplasty, reconstruction of the left orbital floor using a rib bone graft, repair of the left cleft lower lid and upper lip, reconstruction of the left cheek cleft using a cheek flap, left upper lid revision, and repair of the right macrostomia. The total operative time was 7 hours and 7 minutes, and intraoperative bleeding was 76 mL. The patient favorably recovered from this severe surgery without postoperative infection. She could drink water the next day, eat soft food on the 2nd day, and walk the 3rd day. She underwent the removal of sutures under general anesthesia one week after the first operation, and was discharged and returned to Laos one more week later. Three months later, a staff member of the international medical cooperation volunteer group sent us pictures of her, showing a favorable course (Figures 3).



**Figures-3.** The picture, which was sent by a staff member of the international medical cooperation volunteer group, shows the post-operative appearance of the patient 3 months after surgery. Clefts of the face and eye ball dislocation have been resolved. Right picture shows the fine patient's active daily life with a favorable appetite.

**Source:** A stuff of the international medical cooperation volunteer group and sent for authors

## 3. DISCUSSION

The first model of surgery as international aid is the donation of supplies to low- and middle-income countries. This donation allows clinicians of those countries to identify and treat previously undiagnosed diseases (Dewan *et al*., 2011). However, Dewan et al. stated the insufficiency in that donated devices are costly to repair or their use is expensive for the local population. Therefore, the sole donation of goods may not actually increase access to health care (Dewan *et al*., 2011; George and Mark, 2015). On the other hand, many international volunteer groups, involving reconstructive plastic surgery departments, provide free surgery for the poor and underserved in developing countries, which is one of the classic models of international aid (Bernstein, 2004; Schneider *et al*., 2011; Howe *et al*., 2013). Furthermore, surgical outreach programs in the developing world can facilitate best practice management for sustainability. When physicians visit the same location multiple times, patients may receive further benefit because they consult the same doctor continuously (Ditta *et al*., 2015). Although these philanthropic travels by physicians play an important role in low- and middle-income countries, the limitations are that they cannot cure some patients who suffer from severe or rare diseases because of the lack of physicians' experience or knowledge, equipment, and special instruments required. In these cases, the patients have to travel to foreign medical institutions, as in the Laotian patient's case. George and Mark (2015) categorized this style of international health cooperation as "Committed Partnership", which consists of institutional collaboration between centers in developed and developing countries. When international "Committed Partnership" cooperation is designed, several challenges can arise, including expenditure for the treatment and trip, choice of medical center, period of stay, lack of pre-surgical information, different lifestyle and manner, and language barrier.

The most important and difficult problems may be the collection of money and choice of medical facility. These projects are usually set up with contributions of volunteer groups. In our case, medical volunteers campaigned to raise funds and went onto the Internet for donations, which reached more than 1,600 dollaers. It was a sufficient amount for the patient and her father to go to Japan and return to Laos, but insufficient for undergoing surgery. Thus, our Medical Center offered to fully cover the medical bill. Once the project was decided, practical medical problems had to be overcome. At first, we could not obtain any pre-surgical medical data, because she had not consulted a doctor as she lived in a remote parts of Laos. We asked the medical volunteers to at least obtain an electrocardiogram, and send it to us, as cardio-pulmonary disorder can prevent general anesthesia and surgery, even though many volunteers had made concerted efforts. The patient received a detailed physical examination, including X ray, computed tomography, a respiratory function test, and blood test, at once on arriving in Japan. Afterwards, she underwent pre- anesthetic/surgical examination by both an anesthesiologist and a craniofacial surgeon, and decision to perform the surgery was made. Usually, patients with these severe congenital facial anomalies undergo revision and reconstruction surgeries several times according to each patient's growth. However, as the patient may not able to visit Japan again, the surgery was planned to cover as many points as possible at once. In this context, the short-term stay is another problem, because the more extensive the operation, the higher the risk of surgical complications such as bleeding, infection, and damage (Lazzaro *et al*., 2010). If post-surgical wound infection occurs, it will take a long time for recovery and the patient must stay for a prolonged period.

Other probles in Japan are differences in language and customs. Insufficient verbal communication leads to patient and parent anxiety, especially when they are in a foreign country. In our case, both Laotian and Japanese are not common international languages, so it required at least one (Laotian↔English) and sometimes two (Laotian↔English↔Japanese) interpreters for the two parties to understand each other.

Finally, the most regrettable problem is that we surgeons cannot follow-up the patient's post-operative condition periodically. We were aware of our patient's state only through photographs sent by the medical

volunteer group in Laos, which is clearly unsatisfactory. As we mentioned above, although many challenges confront international health cooperation, we believe that partnerships between surgical centers in developed countries and medical volunteer groups in developing countries can get over them with their efforts and noble spirit. As our international "Committed Partnership" cooperation has been just launched, long-term operation is desirable.

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Competing Interests: The authors declare that they have no competing interests.

Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

**Ethical Considerations**

The procedures followed were in accordance with the ethical standards of our institutional committee on human experimentation and with the Helsinki Declaration of 1975, as revised in 1983.

A parent of this patient was informed about the patient's ethical rights by the author, and agreed that the patient's illustrative material, including face, could be used for the aim of the medical study, and also agreed to the photos being published in a medical journal.

This manuscript has not previously been presented at any meeting.

This article is original and has not previously been published.

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