

Robib and Telemedicine



DANA-FARBER/PARTNERS
CANCERCARE

Affiliated with



HARVARD
MEDICAL SCHOOL

Latest Telemedicine News - February, 2001

Telemedicine clinic in Robib

Residents of Robib were invited to their local health clinic on February 15 for the first of what will be monthly telemedicine consultations to bring health care to this remote village. Early that morning, the Robib clinic's local medical assistant, Mr. Yim Deth, recorded initial patient information (name, address, date of birth, health complaint) to save time and assist the visiting nurse in determining which villagers needed the most urgent care.

Mr. Koy Somontha, the visiting nurse from Sihanouk Hospital Center of Hope in Phnom Penh, examined the patients. David Robertson, a volunteer from Boston who is coordinating the telemedicine project in Cambodia, took digital photos and transcribed the examination data into a laptop computer. The photos and text were sent from the village school's Internet link (a five minute walk from the clinic) to physicians at the



Sihanouk Hospital in Phnom Penh and Massachusetts General Hospital in Boston.



All patients and/or their relatives were asked to sign a release giving permission to be photographed and to have their images and medical information transmitted over the Internet and shown on the www.villageleap.com website. No one objected to the release form, in fact, so many people in the village were eager to participate in this pilot project that there was not enough time to examine all of them.

Both hospitals replied within a few hours with recommendations for follow up care. The e-mail exchanges between the village and hospitals continued into the next day and follow:

From: "David Robertson" <davidrobertson1@hotmail.com>
To: ggumley@bigpond.com.kh, JKVEDAR@PARTNERS.ORG
Cc: bernie@media.mit.edu
Subject: 4 telemedicine patients
Date: Thu, 15 Feb 2001 05:48:23
X-OriginalArrivalTime: 15 Feb 2001 05:48:24.0369 (UTC) FILETIME=[E92E1210:01C09712]

Dear Dr. Gumley and Dr. Kvedar,

Following patients were examined this morning in the clinic in Robib village. Comments are from the Sihanouk Hospital nurse. Digital photos attached. Any advice appreciated.

Best regards,

David

Patient # 1: male, 48 years old, Noug Kim Chhang, teacher in village
Chief complaint: heart palpitation, shortness of breath, dry cough on and



off for 5 years.
BP 120/60, pulse 120 and irregular, resp. 28, temp. 38
Past history: has visited Sihanouk Hospital twice, last 12 Sept 2000,
diagnosis mitral stenosis
EKG showed irregular rhythm

Lung right upper lobe has crackle, other side is clear
Heart: systolic murmur and irregular rate
Abdomen soft, no pain, no hepato splenomegalie, skin mild pale and warm to touch, mild jaundice
Assessment: heart valvular disease and pneumonia
Recommend: EGK, chest x-ray, blood work, collect sputum, abdominal ultrasound



Patient #2 : female, 10 months old, mother is Thoung Pou, child is Hem Lyna
Chief complaint: mother says child has mild fever and dry cough since birth
Abdominal distension observed
pulse 145, resp. 40, temp. 37.9, 5 KG
Lungs crackle all lobes, heart normal but taccacardia, abdomen is tender, positive hepato splenomegalie, positiv bowel sound, skin mild pale
Recommend chest x-ray, abdominal ultrasound, and blood work, needs oxygen
Assessment: PTB or pneumonia, plus malnutrition



Patient # 3: female, 10 years old, mother is Dy Ravy, child is Ly Dary Ioy
Chief complaint: blurred vision since birth
4 days after birth convulsions and high fever
Lungs, heart, skin OK
Pulse 84, resp. 22, temp. 37, 24 KG
Recommend ophthamologist



Patient # 4: male, 23 years old, Phang Vannack
Chief complaint: Palpitations, dizziness, shortness of breath on exertion
for more than one year
Lungs, heart, skin okay
BP 120/70 , Pulse 104, resp. 20, temp. 37
Past medical history: visited private clinic in Phnom Penh, received medicine but can't recall what it was. Doctor said congenital heart problem
but did no EKG or heart ultrasound.
Lungs clear, heart has small murmur, pulse trill, abdomen and skin OK
Recommend EKG and heart ultrasound, blood tests
Assesment: valvular heart disease?

To: 'David Robertson ' <davidrobertson1@hotmail.com>, "ggumley@bigpond.com.kh " <ggumley@bigpond.com.kh>
CC: "bernie@media.mit.edu " <bernie@media.mit.edu>
Subject: RE: 4 telemedicine patients
Date: Thu, 15 Feb 2001 01:33:58 -0500

Dear David:

I have offered my advice in capital letters after each case. I also have some general comments on the process and evolution of telemedicine in Robib.

As one looks at what we've done in the last few months, there is a clear evolution. Initially we exchanged general health information questions and answers via the villageleap web site.

Today we begin the important next step of customized opinions on specific patients' illnesses. This is exciting for me as a proponent of this technology and for all of us health care providers at the Mass General as we see/feel the opportunity to reach across thousands of miles to provide help.

I am going to offer preliminary assessments on these patients. It should be noted that we have started the process with two types of data collection, textual histories and digital images. For each case, the ideal data set for a specialist will vary. Digital images are most helpful in skin cases, but even in these cases a picture of the patient is most helpful in generating initial advice. What is perhaps more exciting is that most of the tests recommended by the local nurse, if they can be performed locally or on Pnom Penh, can be added to the data set at a later time for retrieval (if needed) by a Boston-based specialist for a more comprehensive treatment plan.

Finally, I note again that I will be offering an initial assessment. I will be inviting other physicians to offer further commentary in the next 12 hours.

>Patient # 1, male, 48 years old, Noung Kim Chhang, teacher in village
>Chief complaint: heart palpitation, shortness of breath, dry cough on
>and off for 5 years

IT WOULD BE NICE TO SEE COPIES OF ANY WORK DONE ON HIS PREVIOUS VISIT TO THE HOSPITAL IN PHNOM PENH. ACTUALLY, AN INEXPENSIVE SCANNER COULD BE ADDED TO SCAN BOTH XRAY IMAGES AND EKGS, PERHAPS AT THE HOSPITAL. IF HIS DIFFICULTIES WERE FROM MITRAL STENOSIS ALONE, IT WOULD BE UNUSUAL TO HAVE CRACKLES IN ONLY THE RIGHT UPPER LOBE OF THE LUNG. THIS FINDING MAKES ME WONDER ABOUT A SECOND, PRIMARY LUNG ILLNESS SUCH AS TUBERCULOSIS, WHICH OFTEN FAVORS THE UPPER LOBES. UNLESS HE HAS BEEN VACCINATED WITH BCG, I WOULD ADD A PPD TO THE RECOMMENDED. TESTS. HIS IMAGE SUGGESTS THAT HE IS CHRONICALLY ILL AND SHORT OF BREATH AT REST - EITHER CHRONIC MITRAL STENOSIS OR TUBERCULOSIS COULD PRODUCE THAT COMPONENT OF THIS ENTIRE PICTURE. I WILL SEE IF I CAN GET AN INTERNIST TO COMMENT IN THE NEXT 12 HOURS, BUT I BELIEVE THE RECOMMENDATIONS ARE SOUND AND THE NEXT STEPS AND THERAPEUTIC RECOMMENDATIONS WOULD BE AIDED BY THE TESTS MENTIONED.

>Patient # 2, female, 10 months old, mother is Thoung Pou, child is Hem Lyna
>Chief complaint: mother says child has mild fever and dry cough since birth

I'M NOT SURE WHAT PTB IS, BUT THE CHILD LOOKS ILL AND MALNOURISHED. I WOULD SUSPECT THAT IF THE CONDITION IS TRULY SINCE BIRTH, OTHER CONGENITAL CAUSES MIGHT BE IN THE DIFFERENTIAL DIAGNOSIS. I BELIEVE I CAN GET A PEDIATRICIAN TO COMMENT IN THE NEXT 12 HOURS.

>Patient # 3, female, 10 years old, mother is Dy Ravy, child is Ly Dary Ioy
>Chief complaint: blurred vision since birth

A LITTLE BIT OF ADDITIONAL INFORMATION WOULD BE HELPFUL, MOSTLY ON THE ACTUAL VISION EXAM. IF AN EYE CHART IS AVAILABLE TO DO A VISUAL ASSESSMENT THAT WOULD HELP. THE DIFFICULTY COULD RANGE FROM SIMPLE NEAR SIGHTEDNESS TO THE RESULT OF A CONGENITAL CONDITION OR INFECTION. I WILL GET AN OPHTHALMOLOGIST'S GUIDANCE

>Patient # 4, male, 23 years old, Phang Vannack
>Chief complaint: Palpitations, dizziness, shortness of breath on exertion
>for more than one year

VALVULAR HEART DISEASE SEEMS MOST LIKELY, AND THE TESTS NOTED ABOVE WILL HELP CLARIFY.

THANK YOU FOR ASKING OUR ADVICE FOR THESE PATIENTS. I HOPE MY OPINIONS, HUMBLY OFFERED, ARE OF SOME INITIAL ASSISTANCE; I WILL BE GETTING MORE THOROUGH OPINIONS SHORTLY.

From: "sihosp" <sihosp@bigpond.com.kh>
To: "David Robertson" <davidrobertson1@hotmail.com>
Subject: Reply on 4 telemedicine patients
Date: Thu, 15 Feb 2001 14:45:38 +0700

See each reply below after each patient history.
Thanks,
Dr. Cameron Gifford and Dr. Jennifer Hines
Sihanouk Hospital Center of HOPE (SHCH)

>Patient # 1, male, 48 years old, Noug Kim Chhang, teacher in village
>Chief complaint: heart palpitation, shortness of breath, dry cough on
>and off for 5 years

We agree with the Assessment. We recommend starting Amoxicillin 500mg by mouth every 8 hours for 10 days. This should be started immediately.
Because he is our old patient, he should return to Sihanouk Hospital Center of HOPE (SHCH) for evaluation of his jaundice, and probably restart his previous medication regimen.

>Patient # 2, female, 10 months old, mother is Thoug Pou, child is Hem Lyna
>Chief complaint: mother says child has mild fever and dry cough since birth

This child is very, very ill and in grave risk of dying. We recommend immediate transport of patient and mother to a pediatric hospital. We agree with the above assessment and are strongly afraid of disseminated TB and malnutrition.

>Patient # 3, female, 10 years old, mother is Dy Ravy, child is Ly Dary Ioy
>Chief complaint: blurred vision since birth

Hard to know if convulsion has any impact on blurred vision now. Strongly agree that referral to ophthalmologist is best way to start for this young patient. This is very important to help her go to school and live a reasonably normal and productive life.

>Patient # 4, male, 23 years old, Phang Vannack
>Chief complaint: Palpitations, dizziness, shortness of breath on exertion
>for more than one year

We agree that above evaluation leads to assessment of valvular heart disease as most likely diagnosis, but other diagnoses are very possible. We recommend referring to our hospital for evaluation or to a district or provincial hospital for a full medical evaluation and chest x-ray to find the correct diagnosis to determine the correct treatment.

From: "Kvedar, Joseph Charles,M.D." <JKVEDAR@PARTNERS.ORG>
To: 'David Robertson' <davidrobertson1@yahoo.com>
Cc: "'bernie@media.mit.edu'" <bernie@media.mit.edu>
Subject: FW: 4 telemedicine patients
Date: Thu, 15 Feb 2001 13:48:02 -0500

I have a cardiologist's opinion on the two heart cases My ophthalmological colleague suggests we do as complete eye exam as possible (vision, papillary reactions, etc)
We are awaiting word from a pediatrician re: the little baby

Joseph C. Kvedar, M.D.
Director, Partners Telemedicine
Vice Chair, Department of Dermatology
Harvard Medical School
One Longfellow Place, Suite 216
P.O. Box 8941
Boston, MA 02114

617-726-4447 (voice)
617-228-4609 (fax)
jkvedar@partners.org

-----Original Message-----

From: Kelleher, Kathleen M., PHS - Telemedicine
Sent: Thursday, February 15, 2001 12:47 PM
To: Kvedar, Joseph Charles,M.D.
Subject: FW: 4 telemedicine patients

Here are Dr. Hutter's responses

-----Original Message-----

From: Hutter, Adolph M.,Jr.,M.D.
Sent: Thursday, February 15, 2001 12:44 PM
To: Kelleher, Kathleen M., PHS - Telemedicine
Subject: RE: 4 telemedicine patients

Case #1. If this patient is in atrial fibrillation, he needs to be on Digoxin and Coumadin to prevent embolic stroke. The diagnosis of Mitral Stenosis should be confirmed with an Echocardiogram with attention to an ECHO Score to see if he might be a candidate for Percutaneous Mitral Valulotomy.. The systolic Murmur suggests another valve lesion such as aortic stenosis or mitral regurgitation. The echo should help clarify this. Adolph M Hutter Jr, MD

Case #4 This patient needs an EKG and Echocardiogram to assess the nature of the murmur. A more complete description of the murmur and heart sounds would be helpful. The shortness of breath may well be due to a significant heart lesion if no other cause is found.If the story is not clear, an exercise test will tell a lot about exercise tolerance. Adolph M Hutter, Jr,MD

Follow up care

Patient #1 was given the recommended Amoxicillin medication and referred to Sihanouk Hospital Center of Hope for further evaluation. This hospital provides free health care to the

needy people of Cambodia.



Because of the urgent situation, Patient #2 was driven that evening by Sihanouk Hospital Center of HOPE's nurse Koy Somontha and David Robertson to the closest provincial hospital which is located in Kompong Thom province (a three hour drive) where the baby was admitted, accompanied by her mother and grandmother.

After the child's condition had stabilized with a three night stay in the provincial hospital, it was determined the child needed to be transferred to Phnom Penh.

Kanta Bhopa Hospital, a hospital that provides free care to children, admitted the baby.

After four weeks in Kanta Bhopa Hospital, this child continues to receive treatment and tests, and her condition has improved.



Patient #3 was referred to an ophthalmologist

Patient #4 was advised to visit Sihanouk Hospital Center of HOPE for further evaluation.

The telemedicine clinic continued on 16 February to provide the previous day's patients additional health information and to see more new patients.

It was determined that another child was seriously ill:

16 Feb, Patient #4, male, 11 years old, Phim Sophann

Chief complaint: SOB, palpitations, edema all over body more than one year, little urine passed the last month

Past medical history: was examined by a doctor five years ago in Preah Vihear provincial hospital who said child has a heart problem. Was given some medicine and no further followup.

BP 70/30, pulse 138, resp. 30, temp. 37.6,

Lungs clear, heart systolic murmur, strong thrill with irregular rhythm abdominal: hepatomegalie about 6cm, mild tender and pan skin pale and cold extremities, edema on the face



Assessment: congestive heart failure due to valvular heart disease, due to mitrostenosis anemia?

Recommend: oxygen, attention to low BP, chest x-ray, EKG, blood test, heart and abdominal ultrasound.

Phim Sophann was taken that evening with his grandparents by nurse Koy Somontha to the provincial hospital in Kompong Thom where he was admitted. After evaluation it was decided he needed a transfer to Phnom Penh. The free children's Kanta Bhopa Hospital in the nation's capital is better equipped for more comprehensive testing and care.

Assessment: congestive heart failure due to valvular heart disease, due to mitrostenosis anemia?

Recommend: oxygen, attention to low BP, chest x-ray, EKG, blood test, heart and abdominal ultrasound.

The boy has returned to his village with medicine from Kanta

Bhopa Hospital and is now a candidate for heart surgery which may be performed in the near future.



Please see the [press clippings section](#) for more information on this pilot project.

We would like to thank the many people who have donated their time and expertise to help establish the first telemedicine clinic in Cambodia:

Dr. Graham Gumley, Director of Sihanouk Hospital Center of HOPE (SHCH) in Phnom Penh, Cambodia

Dr. Cameron Gifford and Dr. Jennifer Hines, Sihanouk Hospital Center of HOPE

Nurse Koy Somontha, Sihanouk Hospital Center of HOPE

Dr. Joseph C. Kvedar, M.D., Director, Partners Telemedicine, Boston, MA, USA

Dr. Adolph M. Hutter, Jr., Massachusetts General Hospital, Boston, MA, USA

Dr. Beat Richner, Director of Kanta Bhopa Hospital des Enfants, Phnom Penh

Dr. Mam Bunheng, Secretary of State for Health, Kingdom of Cambodia

Mr. Chum Bunrong, General Director of the Social Fund, Kingdom of Cambodia

Robib clinic's medical assistant, Mr. Yim Deth

staff of Kompong Thom Hospital in Kompong Thom, Cambodia

The next telemedicine clinic in Robib is scheduled for 15 March 2001. We hope to serve more villagers this time as a result of the knowledge and working relationships gained during the February clinic. One revision will be the use of a standardized form to collect patient health information making data entry quicker. Please check this site for monthly updates on the telemedicine project.

Report and photos by: David Robertson

For more information please contact:

David Robertson

Director of Telemedicine and Special Projects

American Assistance for Cambodia/Japan Relief for Cambodia

Phnom Penh, Cambodia

e-mail: <dmr@media.mit.edu> or <davidrobertson1@yahoo.com>

mobile phone: 855-11-853-180

fax: 855-23-426-573