Robib and Telemedicine





September 2003 Telemedicine Clinic in Robib

Report and photos submitted by David Robertson

On Tuesday, September 2, 2003, Sihanouk Hospital Center of Hope nurse Koy Somontha gave the monthly Telemedicine examinations at the Robib Health Clinic. David Robertson transcribed examination data and took digital photos, then transmitted and received replies from several Telepartners physicians in Boston and from the Sihanouk Hospital Center of Hope (SHCH) in Phnom Penh.

The following day, all patients returned to the Robib Health Clinic. Nurse "Montha" discussed advice received from the physicians in Boston and Phnom Penh with the patients.

Following are the e-mail, digital photos and medical advice replies exchanged between the Telemedicine team in Robib, Telepartners in Boston, and the Sihanouk Hospital **Center of Hope in Phnom Penh:**

From: dmr@media.mit.edu <dmr@media.mit.edu>

To: Kvedar, Joseph Charles, M.D. < JKVEDAR@PARTNERS.ORG >; Paul

Heinzelmann (E-mail) <ph2065@yahoo.com>; Kelleher-Fiamma, Kathleen M., Telemedicine <KKELLEHERFIAMMA@PARTNERS.ORG>; Lugn, Nancy E. <NLUGN@PARTNERS.ORG>; Gary Jacques <gjacques@bigpond.com.kh>; Jennifer Hines <sihosp@bigpond.com.kh>; Rithy Chau <tmed rithy@bigpond.com.kh>; Bunse Leng <tmed1shch@bigpond.com.kh>; dmr@media.mit.edu <dmr@media.mit.edu>

CC: Brandling-Bennett, Heather A. < HBRANDLINGBENNETT@PARTNERS.ORG>; Dr. Srey Sin <012905278@mobitel.com.kh>; aafc@forum.org.kh <aafc@forum.org.kh>; Bernie Krisher <bernie@media.mit.edu>

Sent: Mon Sep 01 06:06:22 2003

Subject: Reminder, Cambodia Telemedicine, September 2nd, 2003

Please reply to David Robertson <dmr@media.mit.edu>

Dear All:

A quick reminder that the September Telemedicine clinic in Robib, Cambodia is still scheduled for Tuesday, 2 Septmeber 2003.

We'll have the follow up clinic at 8:00am, Wednesday, 3 September (9:00pm, Tuesday, 2 September in Boston.) Best if we could receive your e-mail advice before this time.

Thanks again for your kind assistance.

Sincerely,

David

Date: Tue, 2 Sep 2003 05:46:22 -0400

From: dmr@media.mit.edu

Subject: September 2003 Telemedicine Patient #1: THORNG KHUN, female, 38 years old

Please reply to David Robertson dmr@media.mit.edu

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #1: THORNG KHUN, female, 38 years old, follow up patient



Note: We saw this patient previously and followed up with her last month. We diagnosed her with toxic goiter and pregnancy of about 6 months. Rithy Chau of SHCH ordered to draw blood for T4, TSH and the result showed T4=28 pml/l and TSH = 0.02 microIU/ml. Rithy also ordered us to cover her with a multivitamin, 1 tab daily for 30 days, and to draw her blood again this trip for T4. Please see her detailed history from July 2003 & August 2003 attached below.

Subject: Patient still has a little bit of dizziness, decreased palpitations, decreased blurred vision, decreased shortness of breath, decreased neck tenderness, no fever, no cough, no sore throat and no vaginal bleeding.

Object: Looks stable. Alert and oriented x 3 (time, place, person.)

Wt.: 62 kg

BP: 105/80

Pulse: 94

Resp.: 20

Temp.: 36.5

Hair, ears, nose, and throat: Okay. **Eyes:** Pink conjunctiva, not pale, and no jaundice.

Neck: Goiter the same size as last month, 3 x 6 cm (not developing.)

Lungs: Clear on both sides, no crackle and no wheezing.

Heart: Regular rhythm, no murmur

Abdomen: Soft, no pain, positive bowel sound all four quadrants, fetus (good, moving.)

Limbs: No edema and no stiffness.

Assessment: Toxic goiter. Pregnancy of seven months.

Recommend: Should we continue multivitamin tab once daily for another 30 days and draw her blood for T4 as Mr. Rithy suggested, then see her again next visit? Please give me any other ideas.

History from July 2003:

Date: Thu, 10 Jul 2003 09:26:30 -0400

From: dmr@media.mit.edu

To: JKVEDAR@PARTNERS.ORG, "Paul Heinzelmann (E-mail)"

<ph2065@vahoo.com>.

"Kelleher-Fiamma, Kathleen M. - Telemedicine"

<KKELLEHERFIAMMA@PARTNERS.ORG>,

"Lugn, Nancy E." < NLUGN@PARTNERS.ORG >,

Jennifer Hines <sihosp@bigpond.com.kh>,

Rithy Chau < tmed rithy@bigpond.com.kh>,

Bunse Leng <tmed1shch@bigpond.com.kh>, telemedicine_cambodia@yahoo.com,

"Brandling-Bennett, Heather A." < HBRANDLINGBENNETT@PARTNERS.ORG>

Cc: dmr@media.mit.edu, aafc@forum.org.kh,

Bernie Krisher

 dernie@media.mit.edu>,

Somontha Koy <monthakoy@vahoo.com>

Subject: Patient #5: THORNG KHUN, Cambodia Telemedicine, July 10, 2003

Please reply to David Robertson dmr@media.mit.edu

Telemedicine Clinic in Robib, Cambodia – 10 July 2003

Patient #5: THORNG KHUN, female, 38 years old

Chief complaint: Patient complains of chest pain and palpitations on and off for three months.

History of present illness: Three months ago she got symptoms of chest pain and palpitations, chest pain like stabbing. It lasts about 4-5 minutes at a time, and it happens 3-5 times per two days. Chest pain goes away with massage or when she leans forward on a chair. Sometime she feels worse at nighttime. She gets these symptoms accompanied by sweating, dizziness, headache and sometimes almost fainting. She had never met a doctor, just came to see us.

Current medicine: None

Past medical history: Malaria in 1983.

Family history: Her mother has hypertension. Patient has seven children.

Social history: Unremarkable

Allergies: None.

Review of system: Has no fever, no cough, has chest pain, no diarrhea, has dizziness, and

has palpitations.

Physical exam

General Appearance: Looks stable.

BP: 130/60

Pulse: 116

Resp.: 22

Temp.: 36.5

Hair, ears, nose, and throat: Okay. Eyes: Mild exothalsis.

Neck: Small mass at anterior neck, mobile, size about 3 x 4 cm.

Skin: Not pale and no jaundice.

Lungs: Clear both sides, symmetrical sides.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, and has positive bowel sound.

Limbs: Okay

Assessment: Ischaemic heart disease? Toxic goiter?

Recommend: Should we draw her blood for Thyroid test like TSH, T4, T3 and give?

■ Propranolol, 40mg, ½ tablet daily

Please give me any other ideas.

From: "List, James Frank, M.D., Ph.D." < JLIST@PARTNERS.ORG>

To: "'dmr@media.mit.edu'" <dmr@media.mit.edu> Cc: "Kelleher-Fiamma, Kathleen M., Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>

Subject: RE: Patient #5: THORNG KHUN, Cambodia Telemedicine, July 10, 2003

Date: Thu, 10 Jul 2003 12:40:32 -0400

To summarize, the patient is a 38 year-old female with 3 months of positional chest pain and palpitations. On examination, she has tachycardia, exophthalmos, and an anterior neck mass.

The most likely explanation is thyrotoxicosis, the chest pain and palpitations representing episodes of atrial fibrillation. I recommend drawing thyroid function tests and starting a beta blocker. Because of its short half-life, propranolol should be started at 10 to 20 mg three times daily.

The positional nature of the chest pain and its duration also raise the possibility of chronic pericarditis. If the patient is found to be euthyroid, this must be further investigated. While there are many potential etiologies of chronic pericarditis, one must place tuberculosis high on the list. I would recommend getting an EKG (which may show diffuse P-R depressions) and a chest X-ray as well as placing a PPD/Mantoux test.

Cardiac ischemia secondary to coronary artery disease is unlikely in the described

scenario.

James F. List, M.D., Ph.D.

Endocrinology, Massachusetts General Hospital

From: "Rithy Chau" <tmed_rithy@online.com.kh>

To: <dmr@media.mit.edu>

Cc: "SoThero Noun" <aafc@camnet.com.kh>,

"Jennifer Hines" <sihosp@online.com.kh>,

"Gary Jacques" <gjacques@online.com.kh>,

"Bunse Leng" <tmed1shch@online.com.kh>,

"Bernard Krisher" <bernie@media.mit.edu>

Subject: RE: Patient #5: THORNG KHUN, Cambodia Telemedicine, July 10, 2003

Date: Fri, 11 Jul 2003 10:44:21 +0700

Dear Montha and David,

Good morning!

This patient may have hyperthyroidism from her symptoms, but to me she does not look like she is having exophthalmos and her thyroid does not look obvious for an enlargement. Can she go to K. Thom for an EKG and CXR and some blood work like CBC, cem with BUN, creat and glucose. Propranolol 10mg bid may help to relieve her symptoms, but I would check the heart first before the thyroid.

Any domestic problems at home? Can you also work up to rule out any GI problem of dyspepsia or GERD? How is her menses? Any GYN complaints?

Thanks,

Rithy (Dr. Jennifer agreed)

History from August 2003:

Date: Tue, 12 Aug 2003 04:44:15 -0400

From: dmr@media.mit.edu

To: JKVEDAR@PARTNERS.ORG, "Paul Heinzelmann (E-mail)"

<ph2065@yahoo.com>,

"Kelleher-Fiamma, Kathleen M. - Telemedicine"

<KKELLEHERFIAMMA@PARTNERS.ORG>,

"Lugn, Nancy E." < NLUGN@PARTNERS.ORG >,

Gary Jacques <gjacques@bigpond.com.kh>,

Jennifer Hines <sihosp@bigpond.com.kh>,

Rithy Chau < tmed rithy@online.com.kh>,

Bunse Leng <tmed1shch@bigpond.com.kh>, dmr@media.mit.edu

Cc: "Brandling-Bennett, Heather A."

<HBRANDLINGBENNETT@PARTNERS.ORG>,

tmed montha@online.com.kh, aafc@forum.org.kh,

Bernie Krisher

 dernie@media.mit.edu>

Subject: Patient #1: THORNG KHUN, female, 38 years old

Please reply to David Robertson <dmr@media.mit.edu>

Telemedicine Clinic in Robib, Cambodia – 12 August 2003

Chief complaint: Patient still complains of chest pain sometimes, neck tenderness, and palpitations.

Note: We sent this patient to Kampong Thom Hospital last month for consultation and management of her health problem. Kampong Thom was only able to do something for the stomach problem, for the goiter they could not do anything as they cannot do the thyroid function test. They did an unknown blood test and an EKG. The patient was admitted there for five days and covered with medication and discharged with chronic gastritis diagnosis.

Subject: Patient still has palpitations, shortness of breath, sometimes chest tightness, has a headache, neck tenderness, has no abdominal pain, no fever, has neck tightness, no hair loss, has sweating, and no coughing.

Object: Looks stable.

BP: 110/60

Pulse: 104

Resp.: 20

Temp.: 36.5

Hair, eyes, ears, nose, and throat: Okay.

Neck: Small mass at anterior neck, moveable, size 3 x 6 cm (not developing.)

Lungs: Clear both sides and symmetry on bilateral size.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, and has positive bowel sound on all four quadrants. She has been pregnant for six months. She said there is good fetal movement.

Limbs: No stiffness and no edema.

Assessment: Toxic goiter? Pregnancy for six months.

Plan: I think we should draw this patient's blood and do a Thyroid function test at Sihanouk Hospital Center of Hope in Phnom Penh, then follow up with her next month. Please give me any other ideas.

Date: Tue, 12 Aug 2003 20:15:18 -0700 (PDT) From: Rithy Chau <chaurithy@vahoo.com>

Subject: Robib TM in August To: dmr@media.mit.edu

Cc: sihosp@online.com.kh, tmed1shch@online.com, gjacques@online.com.kh

Patient #1 Thorng Khun, 38F

We think the patient is clinically euthyroid but we need to rule out this problem. You can draw her blood to do a TSH and free T4 at SHCH. If her symptoms are tolerable without medications, this is better since she is pregnant. Wait for her TSH and free T4 before considering any medication. Her sx could have come from pregnancy itself. What you can give her is multivitamins with iron and folate (prenatal vitamins) taken qd with meal. Find out also what exactly happended at K Thom Hosp. and her lab results, etc.

<KKELLEHERFIAMMA@PARTNERS.ORG> To: "'dmr@media.mit.edu" <dmr@media.mit.edu> Subject: FW: Patient #1: THORNG KHUN, female, 38 years old Date: Tue, 12 Aug 2003 21:19:53 -0400 > -----Original Message-----> From:Kvedar, Joseph Charles, M.D. > Sent:Tuesday, August 12, 2003 9:17 PM > To:Kelleher-Fiamma, Kathleen M., Telemedicine > Subject:RE: Patient #1: THORNG KHUN, female, 38 years old > Thank you for this interesting case. > Patient #1 38 yo female with chest pain, palpitations > and neck mass/tenderness. > General recommendations regarding the report: > Review of symptoms and physical exam; any other > symptoms consistent with thyroid disease? (ie > diarrhea, nervousness, trembling, moist skin) > (hyperrelexia?) > Was EKG normal? > The constellation of symptoms presented does suggest > hyperthyroidism of some kind. > 1. Acute thyroiditis (also called DeQuervain's > throiditis) often presents with pain and often follows > a viral illness. is therefore quite possible in her. > 2. Toxic goiter or toxic adenoma are also possible in

> that a nodule was apparently identified on exam.

From: "Kelleher-Fiamma, Kathleen M., Telemedicine"

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> 3. Graves disease is usually a diffuse painless goiter
> and is therefore less likely.
> If at all possible have thyroid studies completed
> somewhere (TSH, free T4, T3 re-uptake) would be a
> good start. A thyroid scan (radioactive iodine
> uptake)- if available- would be next if she is indeed
> hyperthyroid to differentiate the possible causes -
> BUT SHOULD NOT BE USED IN PREGNANT PATIENTS.
> Recommendations:;
> 1. Patients with thyroiditis usually improve on
> their own. Management of non-pregnant patients
> includes treating the symptoms if they are severe
> (tachycardia, nervousness) with beta blockers such as
> propanolol. Also, prednisone 20mg to 40mg for a short
> course often gives rapid relief of pain associated
> with painful thyroiditis but often not recommended
> during pregnancy.
> Propylthiouracil is the drug of choice in pregnant
> patients with hyperthyroidism. Typical initial dose
> is 100mg per day and may increase to three times per
> day. Symptoms usually improve in 2-3 weeks.
> 2. If not done already, rule out anemia as a
> contributing cause with a CBC
Joseph C. Kvedar, M.D.
From: "Kelleher-Fiamma, Kathleen M., Telemedicine"
<KKELLEHERFIAMMA@PARTNERS.ORG>
To: "'dmr@media.mit.edu" <dmr@media.mit.edu>
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Subject: RE: September 2003 Telemedicine Patient #1: THORNG KHUN, female, 38

years old

Date: Tue, 2 Sep 2003 20:04:25 -0400

----Original Message----

From: Kvedar, Joseph Charles, M.D.

Sent: Tuesday, September 02, 2003 8:00 PM

To: Kelleher-Fiamma, Kathleen M., Telemedicine

Subject: RE: September 2003 Telemedicine Patient #1: THORNG KHUN,

female, 38 years old

Patient #1: THORNG KHUN, female, 38 years old, follow up patient

approximately 7 months pregnant with apparent toxic goiter / hyperthyroidism.

Thank you for this interesting case. Mr. Rithy's recommendation of a multivitamin is a good one and should continue through pregnancy and into breastfeeding. I also agree with drawing her T4 again. (Note: drawing the FREE T4 is preferred over the total T4 if available, as pregnant euthyroid patients may have falsely high total T4).

I am glad we got the TSH and T4 results as hyperthyroidism in pregnancy may be difficult to diagnose on clinical grounds alone since many of the signs of hyperthyroidism are also seen with normal pregnancy, such as: (Heat intolerance diaphoresis,warm skin, fatigue, anxiety, emotional lability, tremulousness, tachycardia, wide pulse pressure)

The low TSH of $0.02\ mcgU/ml$ and elevated T4 is diagnostic of hyperthyroidism and supports your diagnosis of toxic goiter.

Note that Low TSH in pregnancy can also be seen in: Graves disease? Toxic adenoma? Hyperemesis gravidarum? Gestational trophoblastic neoplasia? Metastatic follicular cell carcinoma? De Quervain's thyroiditis? Silent lymphocytic thyroiditis? Struma ovarii? Hydatidiform mole

Toxic multinodular goiter, or solitary toxic nodule

?Antithyroid drugs should be used (radioactive iodine and

thyroidectomy are contraindicated in pregnancy)

?Fine needle aspiration is often done on solitary nodules to

rule out cancer, but it is relatively rare in pregnant patients and

likely

not available in Phnom Penh.

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?Regardless of the cause of hyperthyroidism, untreated
pregnant patients have a higher incidence of preterm delivery,
perinatal
mortality, and maternal heart failure. So we should treat her with
medication.
Propylthiouracil (PTU)
?A reasonable starting dose could be 100 to 150 mg q 8 hours,
but may need up to 900 mg per day.
?Free T4 and/or T3 should be rechecked in 2-3 weeks to make
sure that she hasn't become hypothyroid from the medicine - which puts
the
baby at risk. Free T4 should ideally be maintained just high of normal
(ie.Free T4= 2.5; Total T4(RIA)= 13; TSH= .3)
?Once serum thyroid hormone levels return to normal, it is
necessary to decrease the dosage to 50-300 mg daily for PTU in divided
doses. When doses of PTU are > 300 mg/day fetal goiter and
hypothyroidism
may result. TSH levels should be checked every 3-4 weeks to assess
thyroid
function. The free T3 and T4 levels should ideally be just above the
normal
range.
?Side effects of PTU are not common but include: rash (10%),
fever, metallic taste, bronchospasm, oral ulcerations, hepatitis,
lupus-like
syndrome. Agranulocytosis occurs in about 0.1 per cent of patients.
Beta Blockers
?Control of adrenergic symptoms such as tachycardia only if
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necessary. Probably best to avoid if possible.

?Propanolol 20 to 40 mg BID or TID

?Atenolol 50 to 100 mg qd. To keep maternal heart rate at

80-90 BPM.

?Prolonged use puts fetus at risk for IUGR, fetal

bradycardia, hypoglycemia, and subnormal response to hypoxemic stress.

What about the baby?

?Neonatal hyperthyroidism occurs in < 2% of infants born to

hyperthyroid mothers.

?Since infants are protected during gestation by the

antithyroid medication received by the mother, symptoms occur only

after

delivery when the beneficial effect of the antithyroid medication is

gone.

?These infants should be followed closely for the first 2

weeks after delivery.

Assessment:

- 1. Probable toxic goiter / hyperthyroidism
- 2. Third trimester Pregnancy

Plan:

- 1. Begin low dose of PTU (i.e. 100mg or 150mg q 8 hours). Takes at least a week to work.
- 2. Recheck T4 after 2 weeks on the medication and adjust PTU dose as necessary attempting to keep the level just above normal range.

Check the normal ranges of your lab but would likely be as follows: free T4 about 2.5, Total T4 in range of 13.

- 3. Repeat T4 every 3 weeks until delivery and adjust PTU accordingly.
- 4. Once serum thyroid hormone levels return to normal, it is necessary to decrease the PTU dosage to 50-300 mg daily in divided doses.

When doses of PTU are > 300 mg/day and are taken long term, fetal goiter and hypothyroidism may result.

- 5. TSH levels could also be checked every 3-4 weeks to assess thyroid function.
- 6. Draw baseline CBC if not already done.(PTU can cause changes in CBC)

- 7. Follow infant closely after delivery for 2 weeks for signs of hypothyroidism.
- 8. Please provide us an update on her condition for continued follow-up.

Joseph C. Kvedar, M.D.

Date: Tue, 2 Sep 2003 05:50:41 -0400

From: dmr@media.mit.edu

Subject: September 2003 Telemedicine Patient #2: NGET SOEUN, male, 56 years old

Please reply to David Robertson <dmr@media.mit.edu>

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #2: NGET SOEUN, male, 56 years ol



Note: We have seen this patient three times, last trip we took him to Kampong Thom Hospital for evaluation. We diagnosed him with Ascitis with cirrhosis and hepatitis. He was admitted to Kampong Thom Hospital for 19 days, just discharged yesterday (after we visited him at the hospital.) The following tests were done:

• CBC (RWC = 6300/mm3, PN = 61%, PE = 03%, PB = 00%,

Lymphocyte = 36%, MO = 00%

- BS = 70 mg/dl
- Malaria = negative
- Transaminase (SGOT = 72ui/l, SGPT = 103 u/l)
- ESR (1h = 90 mm/l, 2h = 105 mm/l)
- UA (Negative)
- Urine microscope (present a few white blood cells and a few epithelial cells.)
- Abdominal ultrasound presented with +3 of Ascitis with cirrhosis
- Chest x-ray (conclusion = normal)
- Ascitis fluid (WBC = 113/mm3, PN = 42%, L = 58%)
- Rivaltat Test (Negative)
- They also did Ascitis drainage of about one litre.)

Medication during hospitalization: The doctors at Kampong Thom covered him with some medications:



- Ampicilline, 500mg, two tablets three times daily for 10 days
- Aldactone, 50mg, one tablet twice daily for seven days
- Atenol, 50mg, 1/2 tablet daily for seven days
- Kel, one tablet twice daily for seven days
- Furosemide, 40 mg, 1/2 tablet daily for seven days
- Multivitamin, one tablet daily for seven days
- IV fluids such as D5%, 500ml, four bags

His condition is much better and he was discharged with prescription for:

- Aldactone, 50mg, one tablet every three days
- Multivitamin, one tablet daily

My assessment today:

Subject: Patient has decreased shortness of breath, sometimes cough, no palpitations, has blurred vision, no fever, has headache, no chest pain, has dizziness, decreasing abdominal distension, no stool with blood, and good appetite.

Object: Looks stable. Alert and oriented x 3.

BP: 100/60

Pulse: 68

Resp.: 20

Temp.: 36.5

Hair, ears, nose, and throat: Okay.

Eyes: Mild pale, mild conjunctiva jaundice

Lungs: Right lower crackle.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, has positive bowel sound all four

quadrants,

Limbs: No edema and no deformity..

Assessment: Cirrhosis, Ascitis, Hepatitis, Right lung congestion?

Plan: I want to cover him with:

- Spironolatone, 50mg, 1/2 tablet twice daily for 30 days
- Furosemide, 40 mg, 1/2 tablet daily for 30 days
- Propranolol, 40 mg, 1/4 tablet twice daily for 30 days

Please give me any other ideas.

From: "Goldszer, Robert Charles, M.D." < RGOLDSZER@PARTNERS.ORG>

To: "Kelleher-Fiamma, Kathleen M., Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>, "'dmr@media.mit.edu'" <dmr@media.mit.edu>

Subject: RE: September 2003 Telemedicine Patient #2: NGET SOEUN, male, 56 years old

Date: Tue, 2 Sep 2003 17:05:25 -0400

Sounds to me like I would continue his current medications.

His condition is much better and he was discharged with prescription for:

- -Aldactone, 50mg, one tablet every three days
- -Multivitamin, one tablet daily

I would add Weight of patient once a week for 2-3 weeks, to be sure he is not reacumulating too much fluid.

No alcohol or liver toxic medications or foods

Repeat ultrasound of abdomen and liver in 6-8 weeks if he remains stable.

RCGoldszer

Date: Tue, 2 Sep 2003 10:53:04 -0400

From: dmr@media.mit.edu

Subject: September 2003 Telemedicine Patient #3: CHHOUK THOM, male, 34 years old

Please reply to David Robertson <dmr@media.mit.edu>

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #3: CHHOUK THOM, male, 34 years old

Chief complaint: Convulsions two times last month.

Subject: HPI. Last July, patient got malaria. He was treated with modern medicine at the local health center. In the last month he got malaria again. He also went to see the medical assistant at the Phnom Dek health center. He was treated again by malaria medication. Ten days later after he had the last malaria, he had convulsion, first with contractions on the right hand and right leg, then radiating to whole body, especially to the head. After that he became unconscious for about 30 minutes and then he



awoke. His family helped him with massage during unconsciousness. He gets this convulsion accompanied by headache and dizziness, blurred vision, and neck tenderness.

Past medical history: He's had good health in previous times, no operations.

Social history: Does not smoke, does not drink alcohol.

Family history: Unremarkable.

Allergy: No known allergies.

Current medication: None

Review of system: No sore throat, has lost weight about 4 kg during last 6 weeks, no fever, no shortness of breath, no cough, no chest tightness or pain, has upper abdominal pain, no stool with blood and no diarrhea.

Object: Looks okay. Alert and oriented x 3.

Weight: 45 kg

BP: 110/60

Pulse: 68

Resp.: 20

Temp.: 36.5

Hair, eyes, ears, nose, and throat: Okay.

Skin: Not pale, no jaundice, warm to touch

Neck: No goiter and no lymph node.

Lungs: Clear both sides.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, has upper abdominal pain, positive bowel sound all four quadrants.

Limbs: No edema, no stiffness, and no deformity.

Neuro Exam:

- Mental good orientation (person, place and date)
- Cerebella function, good intact
- Reflex, hyper reflexive on both elbows and on the right knee 3/2, others are normal
- Motor, normal 5/5
- Sensory, normal

Assessment: Epilepsy secondary to malaria complication? Hypocalcaemia? Dyspepsia.

Plan: Can we cover him with Tums, 1 gr twice daily for one month

and observe his convulsion next trip? Ask him to do some exercise. Please give me any other ideas.

From: "Kelleher-Fiamma, Kathleen M., Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>

To: "'dmr@media.mit.edu" <dmr@media.mit.edu>

Subject: FW: September 2003 Telemedicine Patient #3: CHHOUK THOM, male, 34 years old

Date: Wed, 3 Sep 2003 10:00:36 -0400

----Original Message----

From: Tan, Heng Soon, M.D.

Sent: Tuesday, September 02, 2003 2:14 PM

To: Kelleher-Fiamma, Kathleen M., Telemedicine

Subject: RE: September 2003 Telemedicine Patient #3: CHHOUK THOM, male, 34 years old

He does not have acute malarial infection or encephalitis to explain seizure.

However a blood film to rule out chronic malaria due to vivax may be interesting, but even so, chronic malaria does not cause seizures.

Neither does tuberculous meningoencephalitis that presents more likely with confusion and change in mental status rather than seizure. Does he have some cerebral scar from previous trauma or stroke or a brain tumor? Neurological exam does not suggest previous stroke or mass lesion. A focal seizure makes metabolic disorder [hypoglycemia, hyponatremia, renal or liver failure] unlikely. In a younger person, I would be concerned about an otherwise asymptomatic arteriovascular malformation. Ideally, an EEG and brain MRI and MRA will clarify the etiology of his focal seizure. In the meantime, he should be treated be Tegretol 200-400 mg 2-3 times a day to prevent further seizures.

Heng Soon, M.D.

Date: Tue, 2 Sep 2003 10:56:06 -0400

From: dmr@media.mit.edu

CC: "Brandling-Bennett, Heather A."
<HBRANDLINGBENNETT@PARTNERS.ORG>, tmed_montha@online.com.kh,
aafc@forum.org.kh, "Bernie Krisher" <bernie@media.mit.edu>

Subject: September 2003 Telemedicine Patient #4: SUM SENG, male, 25 years old

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #4: SUM SENG, male, 25 years old



Chief complaint: Upper abdominal pain on and off for two months.

Note: We saw this patient last in March 2002. He was diagnosed with dyspepsia. We covered him with TUMS; 500mg three times daily for two months and then dismissed him.

Subject: HPI. Patient got upper abdominal pain on and off for two years, pain radiating to the back, pain like stabbing sometimes, especially after a meal. He gets these symptoms accompanied by excessive saliva and nausea in the morning.

Past medical history: Dyspepsia in March 2002.

Social history: Unremarkable.

Family history: Unremarkable.

Allergy: None.

Current medicine: None.

Review of system: No fever, no sore throat, no weight loss, no shortness of breath, no cough, no chest pain, has upper abdominal pain, no stool with blood and has diarrhea sometimes.

Physical exam: Looks stable.

Weight: 49 kg

BP: 90/50

Pulse: 70

Resp.: 20

Temp.: 36.5

Hair, eyes, ears, nose, and throat: Okay.

Skin: Not pale, warm to touch, and no jaundice.

Neck: No goiter and no lymph node.

Lungs: Clear both sides.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, has positive bowel sound all four

quadrants.

Assessment: Dyspepsia, Parasitis.

Plan: Should we cover him with Tums, 1 gram twice daily for one month and also try Albendazole, 100mg twice daily for three days? Give advice about food and exercise. Please give me any other ideas.

Date: Tue, 2 Sep 2003 11:00:20 -0400

From: dmr@media.mit.edu

CC: "Brandling-Bennett, Heather A." < HBRANDLINGBENNETT@PARTNERS.ORG>, tmed_montha@online.com.kh, aafc@forum.org.kh, "Bernie Krisher" < bernie@media.mit.edu>

Subject: September 2003 Telemedicine Patient #5: THO CHANTHY, female, 36 years old

Please reply to David Robertson dmr@media.mit.edu

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #5: THO CHANTHY, female, 36 years old



Chief complaint: This patient still complains of palpitations and headache.

Note: We sent this patient to Kampong Thom Hospital last month to begin management of her Hyperthyroidism and Afib. Last month we also drew her blood in the village to test at Sihanouk Hospital Center of Hope for T4 and TSH. T4 = >88pml/l, TSH = <0.02 micro IU/ml. She was admitted to Kampong Thom Hospital for 19 days and they covered her with following medications:

- Carbimazole, 5mg, one tablet three times daily
- Atenolol, 50mg, 1/2 tablet daily
- Aspirin, 500mg, 1/2 tablet daily
- Almac, 500mg, one tablet three times daily
- Vitamin B, B6, B12, one tablet twice daily

Kampong Thom Hospital did some blood tests for her:

- CBC & cell count
- WBC = 5.200/mm3
- PN = 63%
- PE = 03%
- PB = 00%
- Lymphocyte = 34%
- Monocyte = 00%
- BS = 76 mg/dl

Neck Ultrasound: Showed Thyroid gland enlarged, size 64 x 50 x 20 mm, conclusion was diffuse goiter.

EKG: Done on 14 August 03 showed HR about 138/min. and Afib. EKG attached.

Chest x-ray: Showed cardiomegalie.

She was discharged from Kampong Thom Hospital yesterday and the doctors asked her to continue meds as:

- Carbimazole, 5mg, one tablet daily in the morning
- Aspirin, 300mg, 1/2 tablet daily
- Propranolol, 50mg, 1/2 tablet daily

My assessment today:

Subject: Patient still has palpitations, decreasing shortness of breath, increased sleepiness, increased appetite, decreased blurred vision, decreased neck tightness, abdominal pain sometimes, no stool with blood, no edema in legs, increased weight.

Object: Looks stable, alert and oriented x 3.

Weight: 44kg

BP: 120/60

Pulse: 90

Resp.: 22

Temp.: 36.5

Hair, ears, nose, and throat: Okay.

Eyes: Still bilateral exothalsis, decreased pain.

Neck: Goiter the same size, not developing, no JVD.

Lungs: Clear both sides.

Heart: Irregular rhythm, no murmur

Abdomen: Soft, flat, not tender, has positive bowel sound all four quadrants.

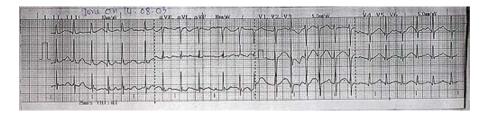
Limbs: No edema and no stiffness but still have both hands tingling.

Assessment: Toxic Goiter. Afib.

Plan: Should we cover her for the next 30 days with:

- Carbimazole, 5mg, two tablets daily
- Propranolol, 40mg, 1/4 tablet twice daily
- Aspirin, 300mg, 1/4 tablet daily
- Multivitamin, one tablet daily

Also draw her blood for T4 as Dr. Bunse & Mr. Rithy of SHCH suggest? Follow the prescription that Kampong Thom Hospital suggested. Please give me any other ideas.



From: "List, James Frank, M.D., Ph.D." < JLIST@PARTNERS.ORG>

To: "'dmr@media.mit.edu" <dmr@media.mit.edu>

CC: "Kelleher-Fiamma, Kathleen M., Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>

Subject: RE: September 2003 Telemedicine Patient #5: THO CHANTHY, female, 36 years old

Date: Tue, 2 Sep 2003 16:57:53 -0400

In summary, the patient is a 36 year-old female recently admitted to the hospital with thyrotoxicosis from Graves' disease, now with atrial fibrillation and possibly heart failure (cardiomegaly on CXR).

I suspect that she still has thyrotoxicosis given atrial fibrillation at her young age. Treatment for her thyrotoxicosis should be with carbimazole at a dose high enough to bring her thyroid function tests to normal, and then at a maintenance dose sufficient to keep her thyroid function tests normal. T4 and TSH need to be checked to follow the effect of treatment. If she is symptomatically thyrotoxic on 5 mg per day of carbimazole, then her dose will need to be increased to the range of 5 to 10 mg three times daily until her T4 comes down into the normal range. One can anticipate a maintenance dose at that point that is somewhat higher (perhaps 10 mg per day). Following T4 and TSH every two to four weeks as therapy is adjusted will be needed, remembering that her TSH may lag behind her T4 as her thyrotoxicosis improves. When T4

and TSH

are stably in the normal range, TSH can be checked every 3 to 6 months

to make

sure therapy is on target.

Of note, in the United States, definitive therapy with radioactive iodine is the preferred treatment modality for Graves' disease if a remission is not achieved on anti-thyroid drugs within 9 to 12 months. Definitive therapy can also be achieved with surgery. The patient should avoid iodine, as this can make her hyperthyroidism worse (except when used as an adjunt in preparation for surgery). Also of note, carbimazole can lead to side effects including agranulocytosis, rash, arthralgias, vasculitis, and cholestatic jaundice.

While she is thyrotoxic, treatment with beta-blockers is also indicated. She should take 10 to 20 mg of propranolol 2 to 3 times daily, starting at the lower dose and titrated upward to normalize her heart rate as blood pressure and heart failure symptoms permit.

For the atrial fibrillation, in the setting of thyrotoxicosis and possible heart failure there is controversy regarding how aggressive to be with anticoagulation. At a minimum, the patient should aspirin daily to decrease the risk of thromboembolic stroke.

Finally, the case history reports blurred vision (improving) and proptosis. The patient has Graves' ophthalmopathy. If this worsens (i.e. if she develops worsening visual symptoms or increased proptosis), she may need orbital decompression surgery or orbital radiotherapy to prevent permanent visual loss.

James F. List, M.D., Ph.D.

Molecular Endocrinology

Endocrine Associates

Massachusetts General Hospital

Date: Tue, 2 Sep 2003 11:03:29 -0400

From: dmr@media.mit.edu

CC: "Brandling-Bennett, Heather A." <h > HBRANDLINGBENNETT@PARTNERS.ORG>, tmed_montha@online.com.kh, aafc@forum.org.kh, "Bernie Krisher" bernie@media.mit.edu>

Subject: September 2003 Telemedicine Patient #6: CHUN DALIN, female, 7-year-old child

Please reply to David Robertson dmr@media.mit.edu

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #6: CHUN DALIN, female, 7-year-old child



Chief complaint: Patient complains of dry cough and sore throat on and off for one month.

Subject: HPI. Patient complains one month ago she got dry cough and sore throat, sometimes accompanied by fever and shortness of breath. Her mother brought her to consult with a doctor and they gave her some medications like Amoxicilline 250 mg twice daily for only three days and then stopped medicine after all symptoms disappeared. Four or five days later, the symptoms reappeared.

Past medical history: Unremarkable.

Family history: None.

Social history: None.

Allergy: None

Current medication: Took Amoxicilline 250 mg twice daily for only three days, finishing ten days ago.



Review of system: Has sore throat, has dry cough, no shortness of breath, and no abdominal pain, has mild fever, and no headache.

Object: Looks stable.

Weight: 15 kg

Pulse: 120

Resp.: 24

Temp.: 37.5

Hair, eyes, ears, and nose: Okay.

Throat: Tonsil bilateral hypertrophy, redness, hyper vascular, and no

pus.

Neck: No lymph node.

Lungs: Clear both sides, bilateral symmetry.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, and no HSM.

Limbs: Okay.

Assessment: Chronic tonsillitis. Chronic Pharyngitis.

Plan: Can we treat her with:

- Amoxicilline, 250 mg, three times daily for seven days
- Paracetemol, 250 mg, four times daily for five days.

Please give me any other ideas.

From: "Kelleher-Fiamma, Kathleen M., Telemedicine" < KKELLEHERFIAMMA@PARTNERS.ORG>

To: "'dmr@media.mit.edu" <dmr@media.mit.edu>

Subject: FW: September 2003 Telemedicine Patient #6: CHUN DALIN, female, 7 -year-old child

Date: Tue, 2 Sep 2003 20:40:54 -0400

- > -----Original Message-----
- > From: Kvedar, Joseph Charles, M.D.
- > Sent: Tuesday, September 02, 2003 8:20 PM
- > To: Kelleher-Fiamma, Kathleen M., Telemedicine; Heinzelmann, Paul J.
- > Subject: RE: September 2003 Telemedicine Patient #6: CHUN DALIN,
- > female, 7-year-old child

- > This seems like a good plan. If it is persistent following a 10 day
- > course, she should probably have cbc, urinalysis, throat culture and a
- > monospot.

>

Joseph C. Kvedar, M.D.

From: "Haver, Kenan E., M.D." < KHAVER@PARTNERS.ORG>

To: "'dmr@media.mit.edu" <dmr@media.mit.edu>

CC: "Kelleher-Fiamma, Kathleen M., Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>

Subject: RE: September 2003 Telemedicine Patient #6: CHUN DALIN, female, 7 -year-old child

Date: Wed, 3 Sep 2003 08:06:18 -0400

The differential diagnosis for chronic cough is quite broad and I am concerned about her weight (<5% on our growth chart). However, her response to antibiotics is somewhat reassuring. I would recommend a much longer course, thinking her cough may be due to incompletely treated sinusitis. I would recommend 21 days of amoxicillin-clavulanic acid, 25-45 mg/kg/24 hr divided BID.

If she fails to respond to antibiotics I would consider a trial with a bronchodilator such as albuterol 90 mcg./actuation, two puffs three times per day. A quiet chest on examination does not rule out asthma. You should see results within a day or two. I would also recommend that she have a PPD placed.

Date: Tue, 2 Sep 2003 21:28:27 -0400

From: dmr@media.mit.edu

To: JKVEDAR@PARTNERS.ORG, "Paul Heinzelmann, MD" <phenzelmann@PARTNERS.ORG>, "Kelleher-Fiamma, Kathleen M. - Telemedicine" <KKELLEHERFIAMMA@PARTNERS.ORG>, "Lugn, Nancy E." <NLUGN@PARTNERS.ORG>, "Gary Jacques" <gjacques@bigpond.com.kh>, "Jennifer Hines" <sihosp@bigpond.com.kh>, "Rithy Chau" <tmed_rithy@online.com.kh>, "Bunse Leng" <tmed1shch@bigpond.com.kh>, dmr@media.mit.edu

Subject: September 2003 Telemedicine Patient #7: SOM THOL, male, 50 years old

Please reply to David Robertson <dmr@media.mit.edu>

This is the last case we will be sending from Robib this month.

Telemedicine Clinic in Robib, Cambodia – 2 September 2003

Patient #7: SOM THOL, male, 50 years old, Follow up patient



Note: This patient, we follow up with him every three months. He is diagnosed with DMII and PNP. We cover him with Diamecron 80 mg, ½ tablet, three times per day, and Amitriptilline, 25 mg, ½ tablet, three times per day (following the advise of the physicians in Boston and SHCH.)

Subject: Patient still has headache, has dizziness, has blurred vision, no fever, no dry cough, sometimes chest pain, no shortness of breath, has palpitations, has upper abdominal pain, no diarrhea, increased weight, decreased passing of urine at night, and has burping.

Object: Looks stable, alert and oriented x 3.

BP: 100/60

Pulse: 80

Resp.: 20

Temp.: 36.5

Hair, eyes, ears, nose, and throat: Okay.

Neck: No goiter, no JVD, and no lymph node.

Skin: Warm to touch, no rash, and no jaundice.

Lungs: Clear both sides.

Heart: Regular rhythm, no murmur

Abdomen: Soft, flat, not tender, has positive bowel sound, and has upper abdominal pain.

Limbs: Okay, no stiffness.

Neuro Exam:

- Good orientation (place, person and date.)
- CN I to XII good intact.
- Cerebella function, good intact (with finger, nose, gait, alternative.)
- Motor, normal 5/5.
- Reflex, decreases both legs 1/2, both ankles1/2, has bilateral dorsal pulse
- Sensation, okay at face, arm, but lose sensation on both feet and both soles. Unable to feel sharpness or vibration.

Assessment: DMII and PNP. Dyspepsia.

Plan: May we cover him with the same dose of Diamecron, 80 mg, $\frac{1}{2}$ tablet, three times per day, and increase the dose of Amitriptilline, 25 mg, one tablet, two times per day. I would also like to add Tums, 1 gram, twice daily for one month. Educate him about foot care and eating properly. Please give me any other ideas.

To: dmr@media.mit.edu

Subject: RE: Replies from SHCH

Date: Wed, 3 Sep 2003 12:42:59 +0700

Dear Montha and David:

My comments about your cases are below:

#1-Thorng Khun, 38F-hyperthyroidism and pregnancy. This lady needs to stay a little hyperthyroid because of the development of the fetal thyroid gland. I would continue to monitor her and would get a T4 next visit. She should be on FeSO4 and Folic acid during the rest of her pregnancy. These are important supplements for the fetus.

#2 Nget Soeun, 56M-cirrhosis of the liver with ascites This man will need chronic diuretics and Aldactone 50mg BID is a good drug for him. If he can afford to take it daily, it is better than Q3 days. He should be on a fluid restriction of <1.5 liters/day. His nutrition is important, so fruits, vegetables and protein are important.

Red meat should be decreased drastically, but fish is good. He will need to avoid the use of IV fluids, because they will make his ascites worse.

#3-Chhouk Thom, 34M-convulsions x 2 last month. It is not clear to me about this situation. I wonder about other drugs, alcohol use and other symptoms not told to us. Why do you think he has hypocalcemia? There are many causes of seizure and one is hypoglycemia.

Is he eating well? I would observe him more and giving TUMS for

dyspepsia is fine. I don't see this in the history.

#4-Sum Seng, 25M-Upper abdominal pain x 2 months. This man has recurrent symptoms and so I would suggest treating him empirically with H. pylori eradication regimen #2-Metronidazole 250mg 2 tabs po Q12; Amoxicillin 500mg 2 cap po Q12; and omeprazole 20mg or famotidine 200mg 1 tab po Q12--all together for 14 days. Yes, talk about diet and smoking, alcohol use.

#5-Tho Chanthy, 36F Hyperthyroidism. I would continue Carbimazole at 5mg TID. It takes months to get this drug at steady levels in the body.

I would also continue the Propranolol at 10mg BID. You could redraw her blood in 2-3 months for T4.

#6-Chun Dalin, 7 yr.old girl. I agree that she may have undertreated pharyngitis. I would agree to treat with amoxicillin, but make sure that she is >40kg. to take 250mg Q8hr. This is an adult dosing. If he is <40kgs in weight, give 20mg/kg/day in divided doses Q8h. Giving Paracetamol is only for fever and pain, as needed.

Thanks

Jennifer

From: "Jennifer G. Hines, MD" <sihosp@online.com.kh>

To: dmr@media.mit.edu

Subject: RE: September 2003 Telemedicine Patient #7: SOM THOL, male, 50 years old

Date: Wed, 3 Sep 2003 12:46:41 +0700

Dear guys:

I don't have a good idea about the blood glucose control of this

patient. Can we get any bloodwork done on this patient? You can renew

the medications that you suggest and be aware the the amitriptyline

will

make him dizzy and tired. Maybe Montha can do fingerstick for glucose

next month.

Jennifer G. Hines, MD

Medical Director

Sihanouk Hospital Center of HOPE (SHCH)

Phone: 855-23-882-484, ext. 124

Fax: 855-23-882-485

Mobile: 855-11-880-315

Email: sihosp@online.com.kh

Follow up Report, Friday, 5 September 2003

Per e-mail advice of the physicians in Boston and Phnom Penh, four patients from this month's clinic and several follow up case were given medication from the pharmacy in the village or medication that was donated by Sihanouk Hospital Center of Hope:

September Patient #1: THORNG KHUN, female, 38 years old

September Patient #2: NGET SOEUN, male, 56 years old

September Patient #3: CHHOUK THOM, male, 34 years old

September Patient #4: SUM SENG, male, 25 years old

September Patient #5: THO CHANTHY, female, 36 years old

September Patient #6: CHUN DALIN, female, 7-year-old child

September Patient #7: SOM THOL, male, 50 years old

October 2002 Patient: MUY VUN, male, 36 years old

October 2002 Patient: PEN VANNA, female, 38 years old

January 2003 Patient: SAO PHAL, female, 55 years old

June 2003 Patient: SOM DEUM, female, 63 years old

Transport & lodging arranged for September 28th follow up appointment at Kantha Bhopa Children's Hospital in Phnom Penh:

June 2001 Patient: SENG SAN, female, 13-year-old child

The next Telemedicine Clinic in Robib is scheduled for October 7 & 8, 2003.