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3rd International Conference on SKIN CARE, DERMATOLOGY AND ALLERGIC DISEASES

July 19, 2021 | Webinar

How do I feed thee? Let me find the ways

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Case

This is a case of R.P., an 11 month-old, male, Filipino, Roman Catholic, from Obando, Bulacan who was admitted at the UST-Hospital for the 4th time due to generalized eczema & abdominal distention.

At 4 months old, he was admitted at the UST hospital Dermatology & Ophthalmology with the diagnosis of seborrheic dermatitis, impetigo contagiosa, and bacterial conjunctivitis, OU. Medications given include: Hydrocortisone cream, Ciclopirox shampoo, emollients, and Erythromycin eye drops. The patient was then on mixed feeding with a standard cow milk formula

At 5 months old, he was re-admitted at the UST hospital due to chronic diarrhea, fever and flare up of his skin lesions.

At this time, he was under the Pediatric service. The patient was referred to the Dermatology, Allergology, Gastroenterology & Nutrition Sections. Skin punch biopsy done showed subacute dermatitis. Skin prick tests done was positive to cow milk (6 mm). The patient was diagnosed to have Cow Milk Allergy and Atopic Dermatitis. Milk was shifted to an extensively hydrolyzed casein formula. Oral prednisone at 1 mg/kg/day was given and was tapered thereafter. Skin care with emollients, topical steroids, and wet dressing were given. He was discharged improved.

At 7 months old, he was re-admitted at the UST hospital with a diagnosis of sepsis (Enterobacter). He was then discharged improved. Mother was advised to continue breastfeeding supplemented with extensively hydrolyzed milk formula & complementary feeding.

At 10 months old, the mother noted that the patient had decreased appetite with abdominal distention. They consulted a local physician and were advised to shift the extensively hydrolyzed milk to goat's milk.

5 days prior to admission, there was persistence of loose watery stool, non-bloody, and non-foul smelling; he still had poor appetite. There was still no medications given and no consultations doneuntil 5 days later.

Review of systems: (+) diarrhea, (+) abdominal distention, (-) vomiting, (-) cough and colds, (-) dyspnea, (-) cyanosis, (-) bleeding tendencies, (-) seizures

Pre-natal & natal history: The patient was born to a 20-years old G0P0 mother with regular pre-natal check-ups at a local health center. The mother had UTI at 1 month AOG for which she took cefalexin for 1 week. She also took multivitamins and iron.

The patient was delivered term via normal spontaneous delivery with good cry. Birth Weight was 3.63 kg. There were no perinatal complications.

Feeding History: The patitent was bottlefed with cow milk formula for the 1st week and then mixed fed thereafter; He was on mix feeding with extensively hydrolyzed milk (Nutramigen) starting at 5 months old; semi-solids & complimentary feeding was started at 6 months old.

Growth & Development: Head lags when pulled to sitting position; sits with support

Immunization History: BCG at birth, Hepatitis B 2 doses, DPT/OPV 2 doses

Family History: There is a paternal history of asthma as well as hypertension and cardiovascular accidents in the grandparents.

Socioeconomic & Environmental History: The patient is the only child, lives with parents, uncle & aunt in a clean, well-lit & well-ventilated concrete 2-storey house neara plastic factory. Source of drinking water was from a refilling station. Their garbage are collected twice a week but not segregated. There was exposure to tobacco smoke from the father. There are no pets at home. Their source of income is from relatives.

Physical Exam: Awake, conscious, afebrile, not in respiratory distress.

Length = 70 cm (Z-score 2) weight = 7.9 kg (Z-score 2)

HR = 100 bpm, RR = 28 cpm, Temp = 36.5 ºC

HC = 40.5 cm, CC = 42.5 cm, AC = 45 cm

Skin: There was noted generalized erythematous plaques and patches with areas of xerosis, excoriations, hyper and hypopigmentation

HEENT: Moon-fascie, hair was noted to be sparse with depigmentation, greasy scales were noted over the temporal area

Abdomen: globular and distended with normoactive bowel sounds, (+) hepatomegaly at 2-3 cm below right subcostal margin, no splenomegaly and no anal fissures

Extremities: erythematous patches and plaques on the inguinal & perianal area, (+) pitting edema of the lower extremities, with flaky-paint rash on both thighs and lower legs

There rest of the physical examination findings were normal.

Course in the Ward

On admission, fluid replacement was administered and the following laboratory tests were done: CBC showed anemia with leukocytosis, serum albumin, total protein and albumin/globulin ratio were low as well as the serum sodium, abdominal x-ray showed ascites. The following medications were given: Ampicillin IV, Gentamicin IV, Zinc 10 mg/ml, Folic acid 5 mg/tab, Vitamin A 100,000 IU, Zinc oxide cream.

The patient was referred to the Pediatric Gastroenterology & Nutrition service with the impression of Sepsis and Kwashiorkor secondary to protein-losing enteropathy. He was placed on nasogastric tube (NGT) feeding, blood glucose was monitored and albumin was transfused. Nutritional build-up was started at 80 kcal/day. He was also referred to Pediatric Allergology & Immunology service with the impression of severe atopic dermatitis and cow milk allergy. Extensively hydrolyzed casein formula was resumed. He was started on Hydrocortisone IV at 1mg/k/day q 6 hrs and Hydroxyzine every 6 hrs. He was also referred to the Dermatology service with the impression of atopic dermatitis. The following skin care regimen was continued: Physiogel moisturizing cream, Dove extra sensitive

soap, Betamethasone dipropionate + Na fusidate ointment, Ciclopirox shampoo.

On the 4th hospital day, there was note of a 95% decrease in erythema over the cheeks & extremities thus betamethasone ointment was shifted to hydrocortisone cream.

On the 7th hospital day, the patient was noted to be more active and playful with less abdominal distention. NGT feeding was well-tolerated. There was marked improvement of the skin lesions thus IV hydrocortisone was shifted to oral prednisolone at 1.5 mg/k/day which was gradually tapered.

On the 13th hospital day, he was active with no more abdominal distention. Repeat total protein levels showed marked improvement.

	On Admission	13th Hospital Day	Normal Values
Total Protein	2.42 g/dL	5.89 g/dL	6 – 7.8 g/dL
Albumin	0.89 g/dL	3.57 g/dL	4 – 5.5 g/dL
Globulin	1.53 g/dL	2.41 g/dL	1.5 – 3.4 g/dL
A/G ratio	0.58	1.48	1-3

On the 17th hospital day, there was noted flare up of the skin lesions. A 24-hour food recall was done. Skin prick testing was done and was positive to egg white and egg yolk. Food avoidance was advised. the patient was also referred to Rehabilitation Medicine who considered developmental delay secondary to Kwashiorkor. Motor rehabilitation therapy was advised.

On the 18th hospital day, an open food challenge to beef, chicken and fish was done and results were negative.

He was discharged on the 20th hospital day with the following medications:

1. Prednisolone 20 mg/5ml; 4 mg OD q other day
2. Hydroxyzine 2 mg/ml; 2ml q 6 hrs PRN
3. Zinc 10 mg/ml; 2 ml OD
4. Ferrous sulfate drops
5. Multivitamins drops
6. Mupirocin cream
7. Hydrocortisone cream
8. Physiogel moisturizing cream

The patient had a discharge weight of 9 kg from 8.5 kg.

For the Salient Feature

11 months old male

Mixed feeding since 1 week old

(+) family history of atopy

Chronic recurrent generalized erythematous plaques and patches with areas of eczema

(+) pruritus & xerosis

(+) sparse hair with depigmentation

(+) ascites

(+) hepatomegaly

Delayed motor development

(+) SPT to cow milk, egg white, & egg yolk

Diagnosis:

1. Severe Atopic Dermatitis,
2. Cow Milk and Egg Allergy
3. Kwashiorkor

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