



PEDIATRIC INFECTIOUS  
DISEASE SOCIETY OF THE  
PHILIPPINES

# PIDSP JOURNAL

Vol 18, No. 2  
July - December 2017

## EDITORIAL

### Second Stop

*Arlene Dy-Co, MD*.....2

## ORIGINAL ARTICLES

### Clinical Profile and Treatment Outcomes of Childhood Extra-pulmonary Tuberculosis in a Children's Medical Center

*Melody O. Kiat, MD*.....3-15

### A Meta-Analysis on GeneXpert Using Stool Samples in Diagnosing Pediatric Pulmonary Tuberculosis

*Othella Mary Ann S. Cacayorin, MD*.....16-22

### A Retrospective Study on Sensitivity, Specificity, Negative Predictive Value, Positive Predictive Value of TB PCR Versus TB Culture in Diagnosing Tuberculosis in Filipino Children Aged 3 Months to 18 Years at a Tertiary Care Center

*Jesanel B. Ancheta, MD, Robert Dennis J. Garcia, MD* .....23-35

### Association of Factors with Successful Treatment Outcome of Childhood Tuberculosis in Barangay Commonwealth, Quezon City: A 2-Year Retrospective Study

*Christine N. Pecson, MD, Ana Liza H. Duran, MD*.....36-53

## CASE REPORTS

### Pediatric Sella-Suprasellar Tubercular Abscess: A Case Report and Literature Review

*Virgi Lea Claudine C. Esquivel Aguas, MD* .....54-61

### Hansen's Disease in an Adolescent: A Case Report

*Patricia Carla N. Asuncion, MD, Rhanee Lota-Salvado, MD*.....62-68

Vol.18 No.2  
July - December 2017

## CASE REPORT

### Hansen's Disease in an Adolescent: A Case Report

#### ABSTRACT

Leprosy is a chronic communicable disease that remains to be endemic worldwide and children and adolescents are most vulnerable to infection. A 17-year-old Filipina presented with a 4-year history of multiple skin lesions evolving into various forms, associated with pain and deformity of extremities. She was diagnosed with Hansen's disease, lepromatous type, in severe erythema nodosum leprosum. She was started on multi-drug therapy with Rifampicin, Clofazimine and Clarithromycin. There was remarkable improvement with arrested progression of skin lesions, conversion of wounds into granulation tissue, significant decrease in painful sensation, and gradual ability to move the extremities. Early recognition of leprosy and prompt initiation of treatment will ultimately prevent complications and disabilities in afflicted patients. A holistic approach is key in the management of children and adolescents with leprosy.

Patricia Carla N. Asuncion, MD\*  
Rhanee Lota-Salvado, MD\*

\*Department of Pediatrics  
University of the Philippines,  
College of Medicine - Philippine  
General Hospital

Correspondence:  
Dr. Rhanee Lota-Salvado  
Email: rhaneesalvado@gmail.com

The authors declare that the data presented are original material and has not been previously published, accepted or considered for publication elsewhere; that the manuscript has been approved by all authors, and all authors have met the requirements for authorship.

#### KEYWORDS:

*Hansen's Disease, Leprosy, Adolescent, Philippines*

## INTRODUCTION

Leprosy, or Hansen's disease, is a chronic, communicable disease caused by *Mycobacterium leprae*. It affects the skin, peripheral nerves, upper respiratory tract mucosa, and eyes. Leprosy remains endemic in many countries, despite having been eliminated as a public health problem globally more than 15 years ago. The World Health Organization reported 210,758 new cases of leprosy worldwide in 2015.<sup>1</sup> The proportion of children among these new cases was 8.9%.<sup>1</sup> Children and adolescents are most vulnerable to infection with leprosy.<sup>2-4</sup> This study depicts the case of an adolescent female with multibacillary, lepromatous leprosy presenting with a 4-year history of multiple skin ulcerations associated with gradually progressing neuritis. A timeline of the patient's medical history and course of care is detailed in Figure 1.

## PATIENT INFORMATION

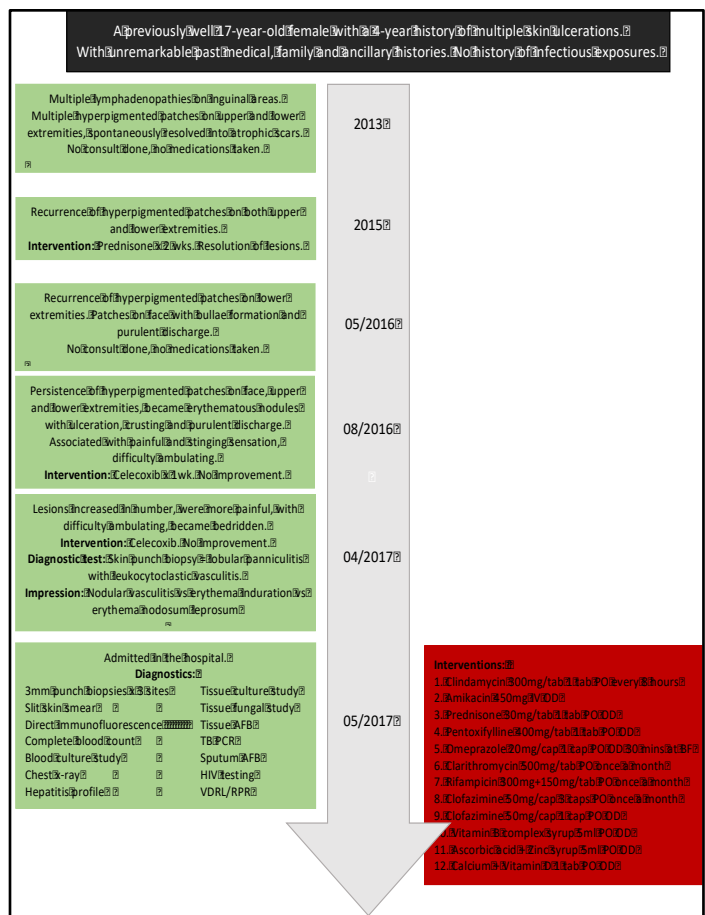
A 17-year-old Filipino female was admitted in our institution in May 2017 due to skin lesions of 4 years duration. She presented with recurrent, multiple hyperpigmented patches which evolved into varying lesions: erosions, ulcerations, bullae formation, erythematous nodules, appearing on her face, hips, and both her upper and lower extremities. Due to neglect, the lesions became secondarily infected, with purulent discharge. She also reported painful sensations on her lesions as well as difficulty in ambulation, eventually rendering her bedridden.

Patient was previously well prior to the onset of her symptoms. Her past medical, family, and personal-social histories were unremarkable. No infectious contacts were identified at initial presentation.

## CLINICAL FINDINGS

Physical examination revealed a cachectic patient with multiple, well-defined, irregularly-shaped hypo- and hyperpigmented patches and plaques with erosions and ulcerations on the face, ears, back, and extremities. Her skin was pale, xerotic and atrophic. An enlarged ulnar nerve was noted on the left arm. She had deformed feet, with marked edema on the left extremity.

**Figure 1. Patients Timeline**



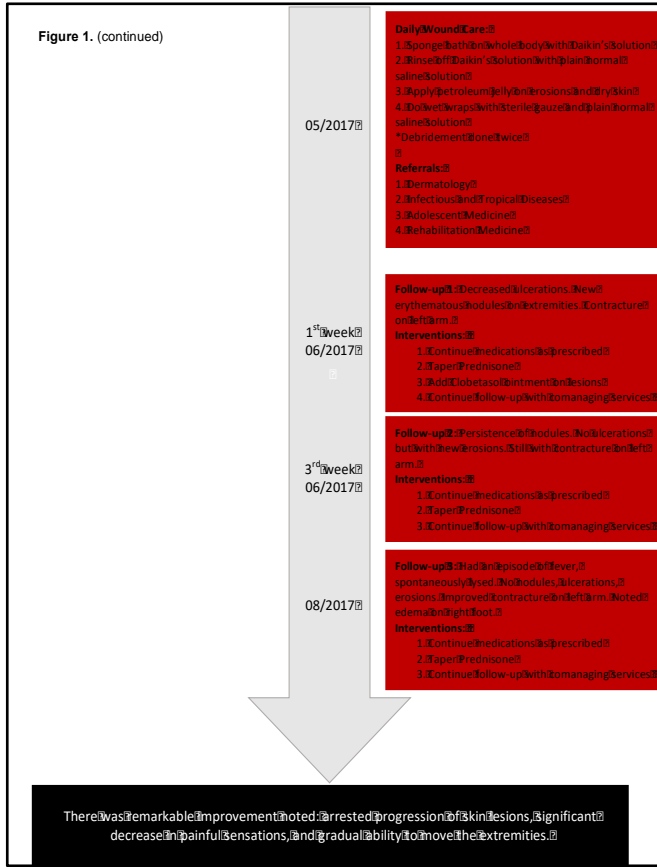


Figure 2. Lesions on the upper and lower extremities on admission.



Figure 3. Lesions on the back on admission.



### DIAGNOSTIC ASSESSMENT

The initial impression for this patient was Lepromatous leprosy, type 2 lepra reaction, with superimposed bacterial infection. Other disease entities considered were cutaneous lupus erythematosus, impetigo, and cutaneous tuberculosis.

Figure 4. Lesions on the face and ears on admission.



Complete blood count showed anemia, leukocytosis and thrombocytosis. Direct immunofluorescence was negative for anti-nuclear antibodies. There was no growth on cultures of blood and tissue samples. Wound discharge culture showed moderate growth of Methicillin-resistant *Staphylococcus*

*aureus* (MRSA). Tuberculosis polymerase chain reaction (TB PCR) was negative. HIV screening was negative as well. Slit skin smears signified a bacillary index of 2. Skin punch biopsies revealed lobular panniculitis with leukocytoclastic vasculitis.

After extensive work-up and evaluation, the patient was diagnosed with Hansen's disease, lepromatous, in severe erythema nodosum leprosum, with superimposed MRSA infection; severe acute malnutrition.

### THERAPEUTIC INTERVENTION

The patient was given Clindamycin (30mg/kg/day) 300mg/tab 1 tablet per orem every 8 hours and Amikacin (15mg/kg/day) 450mg intravenously once a day to treat the MRSA infection. A skin care regimen, comprising of petroleum jelly, plain saline solution and Daikin's solution, was used for cleaning and dressing her lesions. Initially, she was given Prednisone (1mkgday) 30mg/tab 1 tablet per orem once a day and Pentoxifylline 400mg/tab, 1 tablet per orem once a day to control the erythema nodosum leprosum reaction. Pentoxifylline was given in lieu of Thalidomide, a teratogenic drug, since the patient is of reproductive age. For leprosy, she was started on multi-drug therapy (MDT) multibacillary treatment, based on the WHO recommended MDT regimen<sup>5</sup>: Rifampicin 450 mg, Clofazimine 150 mg and Clarithromycin 500 mg once a month, and daily Clofazimine 50 mg for 12 months. Since that the patient had anemia, Clarithromycin was substituted for Dapsone (a drug known to cause hemolytic anemia). Other medications given were Omeprazole, Vitamin B complex, Ascorbic acid + Zinc, and Calcium + Vitamin D. Debridement procedures were done by the dermatology service. The rehabilitation medicine service took care of splinting her extremities.

**Figure 5.** Lesions on the face on discharge, after one week of treatment.



The patient tolerated the procedures well. She did not experience any untoward reactions with the medications given. She exhibited remarkable improvement, with significant decrease in pain sensation on her extremities, arrested progression of her skin lesions, conversion of her previously active wounds into dry areas with granulation tissue formation, and gradual ability to move her lower extremities. She was discharged well after 11 days in the hospital.

**Figure 6.** Lesions on the lower extremities on discharge.

With noted improvement in lesions after one week of treatment.



### FOLLOW-UP AND OUTCOMES

On the patient's initial visit two weeks after discharge (June 2017), the skin ulcerations further improved and decreased in number. However, there was note of new erythematous nodules on the extremities, and contracture on her left arm. She was instructed to continue her medications and continue with daily wound care regimen. Clobetasol ointment was advised for her lesions.

On her second visit two weeks after the first (June 2017), the ulcerations reported earlier had healed but there were new skin erosions. There was still persistence of the nodules on the extremities, and left arm contracture. She was advised to continue her medications.

**Figure 7.** Lesions on the face on her third visit, after 3 months of treatment.



On her third visit (August 2017), she reported an episode of undocumented fever which spontaneously lysed. The skin erosions and nodules previously noted had resolved. The contracture on her left arm had improved. There was note of edema on the right foot. Her medications were advised to be continued.

**Figure 8.** Lesions on the upper extremities, after 3 months of treatment.



**Figure 9.** Lesions on the lower extremities, after 3 months of treatment. Noted edema on right foot.



### DISCUSSION

Leprosy continues to be one of the important neglected tropical diseases worldwide. Global strategies have long been implemented to strengthen efforts for leprosy control. Despite achievements in decreasing the global disease burden, there still remain pockets of high endemicity in some areas of many countries.<sup>6</sup> The World Health

Organization reported that 203,600 (96%) of new leprosy cases came from 22 high-burden countries.<sup>6</sup> The Philippines, being one of these, contributed the highest number of cases in the Western Pacific Region, with mostly multi-bacillary cases (92.21%).<sup>1</sup> In 2015, there were 1,617 new cases of leprosy detected in the Philippines.<sup>1</sup> Out of these, 131 cases (8.1%) were among children.<sup>1</sup> Childhood leprosy correlates with active disease transmission in the community.<sup>1,3,4</sup>

Leprosy, a chronic systemic granulomatous disease, exhibits 3 cardinal symptoms, all of which were present in our patient: multiple nodular skin lesions, peripheral nerve damage, and positive slit skin smear and biopsy.

Spontaneous immunologic phenomena called lepra reactions indicate sudden increase in disease activity. These reactions, which are often precipitated by infection, stress, surgery, pregnancy and vaccination, complicate the course of disease in 40% to 50% of patients.<sup>7</sup> Two distinct leprosy reactions occur: type 1 (reversal type) and type 2 (erythema nodosum leprosum). Manifestations of erythema nodosum leprosum were seen in the patient: neuritis – a painful enlarged left ulnar nerve, loss of function on both feet, joint pains, and generalized tender skin nodules with ulceration.

The treatment goals for this patient included (1) treating the *Mycobacterium leprae* and superimposed MRSA infections, (2) managing the complications: neuritis and deformities, and (3) addressing her psychosocial concerns. The patient responded well to treatment while admitted in the hospital and reported good compliance with her home medications. As recommended by WHO, MDT regimen is continued for 12 months.<sup>5</sup> She and her caretakers were advised regarding the importance of completing the

MDT regimen and the possible repercussions of discontinuing therapy. A study by Kar and Bob which focused on the burden of deformities in children with leprosy, determined various factors that contributed significantly to the deformities: increasing age of children, delay in accessing health care, multiple skin lesions, multibacillary disease, smear positivity, multiple nerve involvement, and reaction at the time of presentation to the hospital.<sup>8</sup> Prednisone, an oral corticosteroid given to control the neuritis and erythema nodosum leprosum reaction, was gradually tapered in this patient. Medical management, with concurrent supportive rehabilitation practices, aided in her marked improvement. As in the study of Govindharaj et al, it is important to deal with child and adolescent issues related to health and stigma.<sup>3</sup> The psychosocial aspect of the disease was addressed with counselling by the Adolescent Medicine service and the hospital chaplain.

#### LIMITATIONS

The treatment response seen in our patient thus far may not necessarily apply to other patients in general, given the modified therapeutic regimen accorded to her. Since the patient has only been on the first few months of a year-long therapy, the utmost effects of treatment and signs of significant recovery are yet to be observed. Continuous follow-up and evaluation is therefore emphasized.

#### CONCLUSION

Leprosy remains an important endemic disease worldwide. This report illustrated the case of an adolescent with a protracted history of multiple skin lesions and resultant deformities. Multi-drug therapy is effective in treating leprosy. Early recognition of the disease and prompt initiation of treatment will ultimately prevent complications and

disabilities in the afflicted patients. A holistic approach in the management of children and adolescents with leprosy is recommended.

## CONSENT

Written consent was obtained from her parents and verbal consent was given by the patient for publication of this article.

## REFERENCES

1. World Health Organization. Global leprosy update, 2015: time for action, accountability and inclusion. *Weekly epidemiological record*. 2016; 91:405-420.
2. Santos DZ, Penna GO, Costa MN, Natividade MS, Teixeira MG. Leprosy in children and adolescents under 15 years old in an urban centre in Brazil. *Memórias Do Instituto Oswaldo Cruz*. 2016; 111(6):359-364.
3. Govindharaj P, Darlong J, John AS, Mani S. Children and adolescents' attitude towards having leprosy in a high endemic district of India. *Leprosy Review*. 2016; 87:42-52.
4. Dogra S, Narang T, Khullar G, Kumar R, Saikia UN. Childhood leprosy through the post-leprosy-elimination era: a retrospective analysis of epidemiological and clinical characteristics of disease over eleven years from a tertiary care hospital in North India. *Leprosy Review*. 2014; 85(4):296-310.
5. World Health Organization. Leprosy elimination. Available at <http://www.who.int/lep/mdt/regimens/en/>.
6. World Health Organization. Leprosy fact sheet, updated February 2017. Available at <http://www.who.int/media/centre/factsheets/fs101/en/>.
7. Scollard DM, Dacso MM, Abad-Venida ML. Tuberculosis and Leprosy: Classical granulomatous diseases in the twenty-first century. *Dermatologic Clinics*. 2015; 33:541-562.
8. Kar BR, Job CK. Visible deformity in childhood leprosy – a 10-year study. *International Journal of Leprosy and Other Mycobacterial Diseases*. 2005; 73(4):243-248.
9. Riley DS, Barber MS, Kienle GS, Aronson JK, von-Schoen-Angerer T, Tugwell P, et al. CARE guidelines for case reports: explanation and elaboration document. *Journal of Clinical Epidemiology*. 2017; pii: S0895-4356(17)300.
10. Chan GP, Chan HP, Gajete FC, Honrado ER. A Training Manual and Atlas for the Diagnosis and Treatment of Leprosy and Common Leprosy Look-alike Skin Diseases for Primary Health Care Providers. 2nd edition, Antipolo, NCR: GPC; 2011.