Patricia Azcona
Oral Pathology DEN2311-D246
Fall 2016

Letterer Siwe

Langerhans's cell histiocytosis (LCH) is a proliferative disorder of Langerhans' cells, but its nature whether reactive, benign, or malignant is still controversial. Eosinophilic granuloma, Hand-Schuller-Christian disease and Letterer-Siwe disease are three different clinical disorders characterized by an abnormal proliferation of histiocytes. They were grouped in 1953 by Lichtenstein under the name of histiocytosis X based on a common histopathological feature: the presence of cytoplasmic bodies known as X bodies. Historically, the nomenclature regarding LCH has been confusing because the disease had been subcategorized simply based upon different clinical manifestations. Eosinophilic granuloma if solitary lesion, Hand-Schuller Christian disease if multiple lesion, Letterer-Siwe disease if disseminated or visceral involvement. Ordinarily, patients with solitary disease have localized pain. Patients with disseminated disease may have lymphadenopathy, skin lesions, or diabetes insipidus.

Letterer-Siwe disease is an illness of infants, almost invariably fatal, and of unknown etiology. No apparent hereditary or familial incidence. The main clinical features are an age incidence from two months to two years. Male prevalence, more common in whites of northern european descent. Incidence is known to be 5 per million population per year.

Indefinite onset with no specific symptomatology. Febrile course lasting for a few weeks or a few months to death. Generalized enlargement of the spleen, and often of the liver as well. A haemorrhagic tendency, commonly producing a purpuric or ecchymotic skin rash most marked shortly before death. Hypochromic anemia, sometimes severe. Destructive lesions in bone, commonly in the skull, rarely if ever, in the bones of the hands and feet, but often occurring elsewhere in the skeleton. Clinically silent or associated with pain and tenderness, with or

without overlying soft tissue swelling. Localized disease carries a better prognosis while disseminated one has a poor prognosis. Survival rate is 99% or greater for unifocal disease and 66% mortality for multisystemic disease.

A biopsy of the spleen, bone marrow, and lymph node could indicate reticulum cell overgrowth, and to that extent confirm a clinical diagnosis of Letterer-Siwe disease, but biopsy of a lymph node would probably always be most useful. Much more than biopsy of the spleen or bone marrow it offers to the pathologist the chance of being able to exclude some of the other conditions which may cause generalized lymph node enlargement. Conditions which enter into the differential diagnosis include aleukaemic leukaemia, Hodgkin's disease and lymphosarcoma, generalized osteitis fibrosa, a local bone neoplasm or a metastasizing neoplasm with spread to bones, tuberculosis disease of bone, myelomatosis, generalized xanthomatosis, "von Jaksch's anemia", and typhoid fever.

The aim of treatment is to improve their quality of life and not to change mortality. Up today, the recommendations of treatment are based on the use of Vinblastin and steroids. This drug is used for many decades and known to be safe (for fertility, and hearing). The use of high doses of steroids requires a long-term follow-up with a special focus on the growth curve. Intralesional steroid injections have been proposed for the bone lesions. Radiation therapy was also proposed by some authors but should be given only in low-doses (6–10 Gy) to reduce the risk of secondary tumors. This treatment is considered suitable for individual clinical use if treatment is important to conserve function and if intralesional therapy is not feasible.

A study was performed by the Department of Odontostomatologic Sciences, University ''La Sapienza'' in Rome, where a total of 31 adult patients affected by immuno-histopathology confirmed LCH were prospectively examined. Attention was paid to the occurrence and characterization of oral lesions. Their results show that twelve patients (38%) developed oral lesions. Posterior regions of jawbones were always affected; the involvement of anterior regions

was not constant. Unifocal oral involvement was significantly associated with multisystemic disease while multifocal lesions were associated with unisystemic disease.

We might think that this has nothing to do with our field, or scope of work as a profession. Letterer-Siwe disease is not only a rare condition, but is present in infants who we do not see as patients yet. However, according to the statistics approximately 40% of those affected will survive. Eventually they will come to us with a history of the disease, and we must have the knowledge to treat them safely, and educate them to maintain an optimum oral health as their body is at greater risk of developing an oral pathology. Although bone and mucosae have been classified as non-risk organs, their involvement may increase the risk of disease progression. Oral and periodontal lesions are burdened with a significant impairment of quality of life for associated signs, symptoms, and loss of function. As future healthcare professionals, it is our responsibility to be familiar with as many disease as we have the opportunity to learn about. Our body as a whole, and every health condition (past or present) should be taken into consideration when treating a patient.

REFERENCES

1. "Langerhans Cell Histiocytosis." *Hematopoietic and Lymphoid Neoplasm Database*. National Cancer Institute. Surveillance, Epidemiology, and End Results (SEER) Program. Web. 06 Dec. 2016.

2. Nishal, Arpita, Jigna Modi, and Hasmukh Balar. "Langerhans Cell Histiocytosis." *Indian Journal of Otology* 19.4 (2013): 194-95. Web.

3. Nicollas, Rome, Belaïch, Roman, Volk, Gentet, Michel, and Triglia. "Head and Neck Manifestation and Prognosis of Langerhans' Cell Histiocytosis in Children." *International Journal of Pediatric Otorhinolaryngology* 74.6 (2010): 669-73. Web.

4. Annibali, Cristalli, Solidani, Ciavarella, La Monaca, Suriano, Lo Muzio, and Lo Russo. "Langerhans Cell Histiocytosis: Oral/periodontal Involvement in Adult Patients." *Oral Diseases* 15.8 (2009): 596-601. Web.

5. MacKelvie, A. A., and W. Wallace Park. "Letterer-Siwe Disease." *Archives of Disease in Childhood* 25.121 (1950): 93–98. Web.