DOI: 10.7241/ourd.20133.83.1

PRIMARY CUTANEOUS NK/T CELL LYMPHOMA-NASAL TYPE WITH CUTANEOUS ASPERGILLOSIS. A CASE REPORT AND LITERATURE REVIEW

by Geetha Krishnanand, Vidya Monappa, Anuradha C.K. Rao

comment:

Ass. Prof. Małgorzata Sokołowska-Wojdyło

Department of Dermatology, Venereology and Allergology, Medical University of Gdansk, Gdansk, Poland

E-mail: mwojd@gumed.edu.pl

Source of Support: Nil

Competing Interests: None

Our Dermatol Online. 2013; 4(3): 339-340 Date of submission: 29.05.2013 / acceptance: 03.06.2013

Cite this article:

Małgorzata Sokołowska-Wojdyło: comment: Primary cutaneous NK/T cell lymphoma-nasal type with cutaneous aspergillosis. A case report and literature review. Our Dermatol Online. 2013; 4(3): 339-340.

Very interesting case published in Krishnanand G. et al has touched the problem of lymphoproliferation on many levels. It has illustrated the need to remain vigilant in the diagnosis of both proliferative and infectious skin conditions. Extensive necrosis and purulent inflammation may frequently be dismissed as an infectious or benign inflammatory process in case of lymphoma. Extremely rare coincidence of aspergillosis and NK/T cell lymphoma was described just two times before (pubmed database). Relation to HIV infection was noted in one publication and patient died because of oportunistic infection because of invasive aspergillosis after tumor recurrence [1]. What more, in between described by European Organization for Research and Treatment of Cancer/Mycosis Study Group (EORTC/MSG) 2,821 patients with other hematological malignancies (including 597 who had undergone HSCT) the aspergillosis was diagnosed in 23 cases only (pulmonary one, fatal in the course in most of cases) [2]. The case of Krishnanand G. et al is even more interesting because aspergillosis was probably cut out by wide local excision and there were no recurrence in spite of introduction of metotrexate and lack of antifungal treatment. This need a comment of experienced microbiologist.

Affected by NK/T cell lymphoma, nasal type patients typically present with nonspecific rhinitis or refractory chronic sinusitis. But the location not in upper aerodigestive tract can also happened. Ex. between 73 patients published recently by Li S et al [3] 10 had extranasal disease involving skin, small intestine, epiglottis, testis, adrenal glands, kidney, and breast. That is why flank location should not surprise. A correct NK/T cell lymphoma, nasal type diagnosis requires an experienced pathologist, often taking multiple sets of large biopsies. Histologically, angiocentric and angiodestructive growth pattern is frequently present, with fibrinoid changes within blood vessels even in the absense of angioinvasion. Infarction-like coagulative necrosis and admixed apoptotic bodies are very common findings. The angiocentric and angiodestructive features of the tumor cells can mimic a vasculitis, such as Wegener's granulomatosis, what we published before [4]. The typical immunophenotype is CD2+, CD 56+, surface CD3-, with cytoplasmic CD3ε+. Cytotoxic molecules are also positive, such as granzyme B, TIA-1, and perforin. EBER in situ hybridization demonstrates virtually all lymphoma cells as positive. But histopathological pattern can be differ, what was revealed by Krishnanand G. et al case. No CD56 antigen expression, as in noted case, is found in 10% cases, no necrosis can be revealed in 8% cases, no angiocentric/angiodestructive growth pattern in more than 30%. But in situ hybridization for Epstein-Barr virus-encoded small RNA should be positive in every case [3]. The etiology of the lymphoma remains not established, however, a strong association with EBV suggests a pathogenic role of the virus [5]. The disease activity can be monitored by measuring circulating levels of EBV DNA, as a high titer of the DNA may suggest extensive disease, unfavorable response to therapy, and poor survival [6]. The use of Fluorine-18 fluorodeoxyglucose positron emission tomography computerized tomography (18-FDG PET-CT) may offer more accurate diagnosis because it may distinguish lymphoma involvement from inflammatory masses [7].

The prognosis in case of NK/T cell lymphomas, nasal type is still poore. It is well known that P-glycoprotein, a product of the multi-drug resistance (MDR1) gene, is expressed on neoplastic cells of that lymphoma. This is a major cause of the refractoriness of the disease to conventional chemotherapeutic regimens containing anthracycline. Some recent studies, however, have identified that L-asparaginase-containing regimens, such as SMILE (steroid, methotrexate, ifosfamide, L-asparaginase and etoposide), are effective for NK/T cell lymphoma, nasal type. Radiotherapy remains effective for the disease [8,9], but is not effective for occult lesion outside the radiation field. The 5-year overall survival (OS) rate using chemotherapy followed by radiotherapy did not exceed 50% [10-12], which was almost the same as that of radiotherapy alone. Radiotherapy followed by chemotherapy was the standard for the limited stage NK/T-cell lymphoma [13,14].

Recently, a strategy of simultaneous chemoradiotherapy was introduced [15,16]. Both studies showed excellent results with 2-year OS of around 80%, but they have not yet shown the advantage over a radiation-first strategy.

REFERENCES

1. Oh SC, Choi CW, Kim BS, Shin SW, Kim YH, Lee JS, et al: NK/T-cell lymphoma associated with Epstein-Barr virus in a patient infected with human immunodeficiency virus: an autopsy case. Int J Hematol. 2004;79:480-3.
2. Kurosawa M, Yonezumi M, Hashino S, Tanaka J, Nishio M, Kaneda M, et al: Epidemiology and treatment outcome of invasive fungal infections in patients with hematological malignancies. Int J Hematol. 2012;96:748-57.
3. Li S, Feng X, Li T, Zhang S, Zuo Z, Lin P, et al: Extranodal NK/T-cell lymphoma, nasal type: a report of 73 cases at MD Anderson Cancer Center. Am J Surg Pathol. 2013;37:14-23.
4. Sokołowska-Wojdyło M, Florek A, Barańska-Rybak W, Sikorska M, Starzyńska A, Drogoszewska B, et al.: Natural Killer/T-Cell Lymphoma, Nasal Type, Masquareding as Recalcitrant Peridontitis in a patient With Diagnosis of Wegener's Granulomatosis. Am J Med Sci. 2013;345:163-7.
5. Tababi S, Kharrat S, Sellami M, Mamy J, Zainine R, Beltaief N, et al: Extranodal NK/T cell lymphoma, nasal type: report of 15 cases. Eur Ann Otorhinolaryngol Head Neck Dis. 2012;129:141-7.
6. Turner JH, Loyo M, Lin SY: Aggressive sinonasal natural killer/T-cell lymphoma with hemophagocytic lymphohistiocytosis. Am J Otolaryngol. 2012;33:188-91.
7. Koch M, Blatterspiel GJ, Niedobitek G, Constantinidis J: Angiocentric T/NK cell lymphoma: a special clinical Pathological entity of lethal midline granuloma. A case report. Laryngorhinootologie. 2001;80:410-15.
8. Cheung MMC, Chan JKC, Lau WH, Foo W, Chan PT, Ng CS, et al:. Primary non-Hodgkin's lymphoma of the nose and nasopharynx: clinical features, tumor immunophenotype, and treatment outcome in 113 patients. J Clin Oncol. 1998;16:70–7.
9. Kim GE, Cho JH, Yang WI, Chung EJ, Suh CO, Park KR, et al: Angiocentric lymphoma of the head and neck: patterns of systemic failure after radiation treatment. J Clin Oncol. 2000;18:54–63.
10. You JY, Chi KH, Yang MH, Chen CC, Ho CH, Chau WK, et al: Radiation therapy versus chemotherapy as initial treatment for localized nasal natural killer (NK)/T-cell lymphoma: a single institute survey in Taiwan. Ann Oncol. 2004;15:618–25.
11. Kim SJ, Kim BS, Choi CW, Seo HY, Seol HR, Sung HJ, et al: Treatment outcome of front-line systemic chemotherapy for localized extranodal NK/T cell lymphoma in nasal and upper aerodigestive tract. Leuk Lymphoma. 2006;47:1265–73.
12. Wang B, Lu JJ, Ma X, Guo Y, Lu H, Hong X, et al: Combined chemotherapy and external beam radiation for stage IE and IIE natural killer T-cell lymphoma of nasal cavity. Leuk Lymphoma. 2007;48:396–402.
13. Li YX, Coucke PA, Li JY, Gu DZ, Liu XF, Zhou LQ, et al: Primary non-Hodgkin's lymphoma of the nasal cavity: prognostic significance of paranasal extension and the role of radiotherapy and chemotherapy. Cancer. 1998;83:449–56.
14. Li YX, Yao B, Jin J, Wang WH, Liu YP, Song YW, et al: Radiotherapy as primary treatment for stage IE and IIE nasal natural killer/T-cell lymphoma. J Clin Oncol. 2006;24:181–9.
15. Yamaguchi M, Tobinai K, Oguchi M, Ishizuka N, Kobayashi Y, Isobe Y, et al: Phase I/II study of concurrent chemoradiotherapy for localized nasal natural killer/T-cell lymphoma: Japan Clinical Oncology Group Study JCOG0211. J Clin Oncol. 2009;27:5594–600.
16. Kim SJ, Kim K, Kim BS, Kim CY, Suh C, Huh J, et al.: Phase II trial of concurrent radiation and weekly cisplatin ollowed by VIPD chemotherapy in newly diagnosed, stage IE to IIE, nasal, extranodal NK/T-cell lymphoma: Consortium for Improving Survival of Lymphoma Study. J Clin Oncol. 2009;27:6027–32.