Case report

Plasmablastic lymphoma in AIDS: Case report and review of literature

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Abstract

Human Immunodeficiency Virus (HIV) infection severely affects the immune status of the infected person. This is a slow process, which, apart from the acute HIV illness in some, does not affect the infected person's health in the early stages of the disease. As the disease progresses to a more advanced stage, many of the common infections begin to appear at a higher frequency, and for prolonged durations. As the immune deficiency advances further, it predisposes the person to a variety of life threatening cancers and opportunistic infections, otherwise rare in a healthy person. Clinical manifestation of any of these conditions marks the state of the infected person as a case of full blown AIDS. This includes many types of leukaemia and lymphomas. The first reported case of plasmablastic lymphoma (PBL) in Fiji in an HIV seropositive person is reported here.

Key words: Human Immunodeficiency Virus, AIDS, Plasmablastic lymphoma, Fiji.

Case report

A 43 year old male presented with left facial cheek swelling for one month, which started spontaneously, and grew slowly. This swelling started to block the nasal passage, with on-and-off nasal discharge. He had a history of occasional headaches every other day, at times quite severe. Occasionally he also had complained of dizziness, nausea and vomiting.

Past history

He has been a known HIV case for the past 3 years, and has been on ARVs for 5 months, consisting of a 3-drug regime with Zidovudine (AZT) 300mg BD, Lamivudine (3TC) 150 mg BD, and Nevirapine (NVP) 200mg BD. He is also on Co-trimoxazole 960 mg OD prophylaxis and ferrous sulphate 200 mg TID. As per WHO classification, he has been determined to be at stage 2. He suffers from recurrent sinusitis which is confirmed by X-ray.

Social History

He is married with no children, his wife is HIV positive. He is an occasional smoker.

On examination, he was found to be a healthy looking male with mild disfigurement of his left face and no obvious distress. His vital signs were normal. He had obvious asymmetry of facial cheeks, on the left side he had a smooth, shiny protruding mass over the left cheek, the size of a golf ball, with erythema. It was non-tender, fixed and firm, pulling onto surrounding structures, especially the nose, causing flaring. His left eye appeared smaller because of this mass. Other systems were essentially normal. A provisional diagnosis of tumor, with differential diagnosis of abscess/cellulitis, infected sinus, or possible side effect of ARVs was made.

When investigated, his full blood counts were normal; his CD4 counts were found to be 106/mm3. His urea electrolytes creatinine levels & liver functions tests were normal. In lipid profiles, he was found to have mildly elevated triglycerides.

A PNS X-ray showed opacification of bilateral maxillary sinuses, hazy bilateral frontal sinuses, and diagnosis of pansinusitis was made. He was referred for surgical opinion, & subsequently was referred to ENT clinic at the CWM Hospital. Since his initial visit, 1 & ½ months had passed and his facial mass had doubled. During ENT investigations, bilateral nasal biopsy revealed plasmablastic large cell lymphoma, and he was referred back to Lautoka Hospital with recommendation for chemotherapy.

Follow up

He completed 4 cycles of chemotherapy, which comprised of 75% CHOP, with cyclophosphamide, doxorubicin, vincristine, prednisone, after consultation with an overseas oncologist. His tumor has shrunk significantly, and symmetry of face has been restored. He received one unit of blood before his third cycle, after a significant drop in his haemoglobin, as a side effect of chemotherapy. He has continued to take medications and has not encountered any side effects. He is being followed-up at the hub centre and is doing well. He has had no significant illnesses since then, apart from the occasional viral illness. He has been working as a sailor for the last 2 years and comes regularly to the clinic to collect his medication, which includes Cotrimoxazole and original ARV regime of Lamivudine, Zidovudine, and Nevriapine (LZN).

Discussion

Lymphoma is a cancer of the lymphocytes***1.***These are of 2 types: Hodgkins and Non-Hodgkins, which are majority of cases. Diseases pathogenesis involves abnormal growth of lymphocytes in both B-cells and T-cells, although B-cells more common. It occurs in the absence of any disease, however, in HIV positive persons, it occurs with high frequency.

HIV-related Lymphoma is uusually aggressive***2.***It is estimated that about 10% of HIV infected persons eventually develop lymphoma. Most common lymphomas seen in patients with HIV are: diffuse large b-cell, Burkitt's / Burkitt-like,p rimary central nervous system,and Hodgkin lymphoma.

Another variety is sinonasal Lymphoma***3.*** It is associated with Karposi's Sarcoma associated herpesvirus, and EBV. Malignant tumours of the sinonasal tract in general population is <1%, and it accounts for 3% of malignancies of the upper respiratory tract.

Most common in varieties in HIV and non-HIV patients are Squamous cell carcinoma (45-80%), Salivary gland carcinoma (5-15%), & Sarcomas (5%), which include Kaposi's Sarcoma and Non-Hodgkin's Lymphoma (NHL)***3.*** The latter ones are commonly associated with HIV infection. Distribution of sarcoma is Maxillary Sinus (63%), Nasal Cavity (35%), Ethmoids (19%), & Frontal and Sphenoid Sinuses (1-2%).

Clinical features:

- Nasal obstruction, nasal drainage
- Sinusitis unresponsive to conventional therapy
- Otitis media with effusion
- Mass effect on face and orbits
- Cranial nerve palsies
- Complaints often non-specific and results in delay of diagnosis

Non-Hodgkin's Lymphoma occurs more frequently in HIV+ patients, about 25-60 times than normal population***4.*** Sinonasal site is rare, more common extranodal sites include CNS, digestive tract & bone marrow. It is often accompanied by symptoms of fever, weight loss and malaise.

Diagnosis of NHL is made on the following basis:

- Clinical exam: Endoscopic evaluation is most reliable. It may appear as friable, greyish necrotic lesion (NHL) or red, purple, or black macule or papule of nasal mucosa (feature of Kaposi's Sarcoma).
- Sinus CT: Best to evaluate for bony erosion tumor. Critical areas include bony orbits, ethmoidrof, and post. maxillary sinus to evaluate orbital, intracranial, or pterygopalantine fossa invasion.
- High resolution or thin cuts recommended. Contrast CT is usually not helpful.
- Magnetic Resonance Imaging: Excellent delineation of tumor from surrounding inflamed tissue or secretions and to evaluate intracranial spread.
- Biopsy: Usually done on primary lesion and any nodal metastasis. Transnasal intraoperative biopsy is usually preferred. Evaluate tissue using histopathology and immunohistochemisty stains.
- Differential diagnosis:
- Infectious conditions such as fungal diseases (mucormycosis, aspergillosis, Alternaria, Bipolaris, etc)
- TB may mimic malignancy.

Biopsy with search for atypical organisms is especially important in this population.

- Inflammatory nasal polyps and pyogenic granuloma (benign nasal tumor) should also be considered.

For treatment of Non-Hodgkin's Lymphoma, ag-

gressive chemotherapy is the treatment of choice. Regimens include CHOP (cyclophosphamide, doxorubicin, vincristine, prednisone) or EPOCH (etoposide, vincristine, cyclophosphamide, doxorubicin, prednisone). Both regimens are often given with rituximab. Non-responders may require local radiotherapy, or rarely surgical resection. Follow up of NHL requires close monitoring by oncology. NHL usually has poor prognosis***5***.

Literature review

The first article on HIV infection was published in May 1981, reporting an incidence of Pneumocystic pneumonia in 5 young but otherwise healthy males***6.*** This report marked the beginning of the HIV pandemic. 2011 was marked globally as the 30th year of the HIV pandemic. Since the beginning of this epidemic, there have been an estimated 30 million infections globally, with maximum impact in the sub-Saharan region of Africa***7.*** Different parts of the world have been affected at different rates. In the Pacific, the first reported case in Papua New Guinea in 1987 marked the beginning of the HIV pandemic in the region. In Oceania, however, the first case was reported as early as in 1982 in Australia.

The Pacific has largely remained a low incidence region, with the exception of Papua New Guinea, which bears the brunt of the epidemic (UNAIDS). In the South Pacific, there are 4 focal points of continuous reported cases of HIV***8.*** Two of them are in French territories (New Caledonia & French Polynesia), one is an American protectorate (Guam). The fourth one is Fiji, with 482 reported cases as of December 2012***9.*** While three of the most affected focal points are under French and American care, ensuring optimal treatment and care is available for their HIV infected populations, Fiji is largely on its own in this regard. After the Global Funds round 2 grant, which concluded in 2007, no new donor initiated major grant has become available. Despite that, MOH Fiji has ensured treatment and care are optimally provided through its core funding. Fiji leads the rest of the region in being proactive on various fronts to ensure key affected populations in the country are cared for.

In the past 30 years, a great deal of knowledge as well as progress on management of HIV infection has been achieved (UNAIDS). While there is still no cure or vaccine available, with current treatment options, HIV can be managed as a chronic infection, which allows the infected person to live a near-normal life. Recently, WHO initiated a campaign to promote treatment as prevention as a strategy to stop the incidence of new infections***10.***

Plasmablastic lymphoma was described as a new entity associated with HIV infections in 1997.11Since then, the frequency of this peculiar entity has increasingly been reported among HIV positive population in various parts of the world***12.***

Opportunistic infections and AIDS associated cancers pose a serious challenge to any resource-limited setting, for the purposes of accurate diagnosis and management. Laboratory facilities for diagnosis of these conditions require advanced techniques and expertise. Special stains, culture facilities, expensive technologies such as immunofluorescence and molecular diagnostic tools are resource intense, require specialied training and stringent quality assurance measures for their validity and accuracy, yet they are needed for a focused and small target group. Therefore, investment in these areas often becomes hard to justify. Fiji and much of the Pacific lacks these resources. As more and more HIV positive persons start their antiretroviral therapy, non-compliance & defaults, drug resistance etc. would put them at risk of developing-AIDS related complications, putting diagnostic services under strain.

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