The Gulf Journal of Oncology

Indexed By PubMed and Medline Database

Issue 46, Sep 2024
ISSN No. 2078-2101

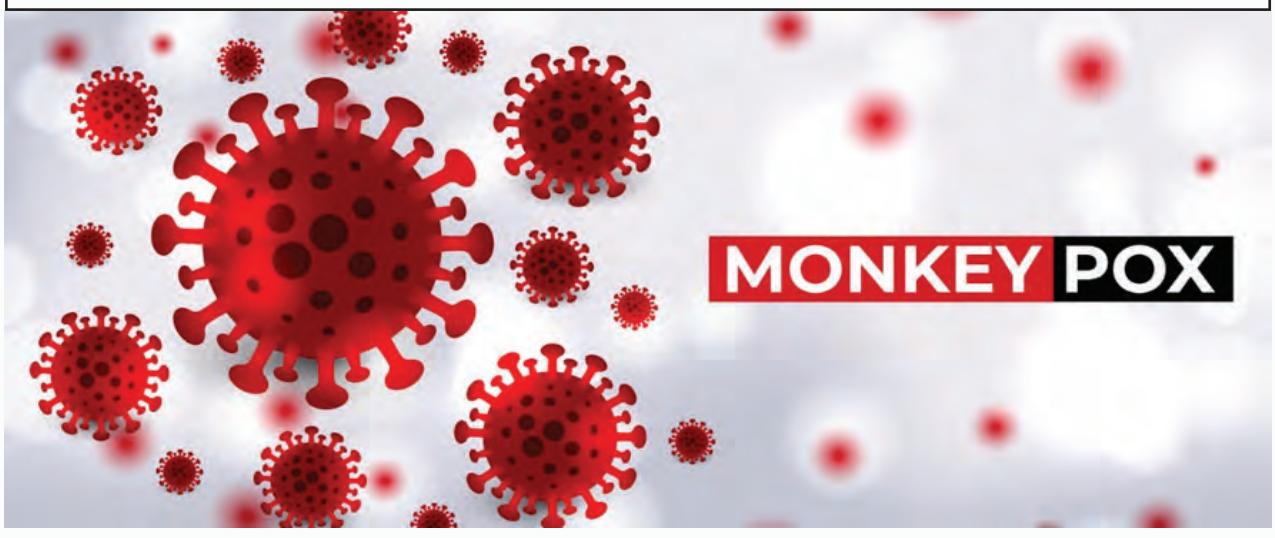


The International Tobacco Control Conference on

The Scourge of Smoking and Conflicts of Interest

October 27-28, 2024

STATE OF KUWAIT



The Official Journal of the Gulf Federation For Cancer Control

Table of Contents

Original Articles

Immunohistochemical Expression of Calretinin in Invasive Breast Carcinoma and its Correlation with Clinicopathological Parameters **07**
Gargi Madhukar Patil, Siddhi Gaurish Sinai Khandeparkar, Shital Subhash Gosavi, Chaitnya D. Khillare, Bageshri P. Gogate, Avinash R. Joshi, Ketki Ghanekar, Asmita S. Pawar

Immunohistochemical Study of Cyclin D1 and HER2/neu in Pre–neoplastic and Neoplastic Epithelial Lesions of Cervix **14**
Neha D. Newadkar, Siddhi Gaurish Sinai Khandeparkar, Bageshri P. Gogate, Aishawarya Gotekar, Priyanka Bhave, Rashmi Shinde, Aanchal Goyal

Survival Outcomes and Predictive Factors to Evaluate the Efficacy of Neoadjuvant Chemoradiation in Carcinoma Esophagus: An Institutional Experience from India **24**
Bhargav Shreeram Gundapuneedi, Vedamanasa Ikkurthi, Jagadesan Pandjatcharam, Y. Sree Sowmya, Raghuveer Reddy Janamolla

Open Nephron–Sparing Surgery for Renal Tumors is an Effective Surgical Option for Low HealthResource Settings in the Era of Laparoscopic Surgery **36**
Adil Ibrahim, Mohamed Mustafa, Imad Fadl Elmula

Brain metastasis: Types, methods of diagnosis and treatment in Nineveh province. **43**
Bassam Jasim1, Alya A Al Zobair, Ahmed Ali Albakr, Barrak F. Al Obeidy

Review Article

Relationship Between Social Support, Coping Strategies, Spirituality and Psychological Status among Breast Cancer Survivors **49**
Maryam Hasan, Leena Khonji, Gayathripriya Narayanan

Postoperative Radiotherapy in Resected Non–Small Cell Lung Cancer: Current Status and Enduring Challenges in 2024 ..... **54**
Fadila Kouhen, Hanaa El Gouach, Nadia Errafiy

Case Report

Synchronous Cutaneous and Brain Metastasis in a Treated Case of Squamous Carcinoma of Left Lower Alveolus: A rare Case report **61**
Prarabdh Singh, Sambit S Nanda, Ashutosh Mukherji

Lived Experiences of Pregnancy, Childbirth and Breastfeeding in Iranian Breast Cancer Survivors: a Qualitative Case Study **65**
Mohadeseh Pourzamani , Hadis Ashrafizadeh, Maryam Kiarsi, Marzieh Beigom Bigdeli Shamloo

Pembrolizumab in the Management of Chemorefractory Gestational Choriocarcinoma: Report of Two Cases. **74**
Fatma Al Zaabi, Ajit Venniyoor, Suad Al Kharusi

Extramedullary Hairy Cell Leukemia in Parotid Gland, Case Report and Review of the literature **79**
Mohammed Shafi Abdul Salam, Shaima Al Shammari, Dina Ismail Abd El Razik, Moustafa El–Kabany, Ramesh Pandita, Ahmad Alhuraiji

Conference Highlights/Scientific Contributions

- **News Notes** **83**
- **Advertisements** **85**
- **Scientific Activities** **87**

Case Report

Extramedullary Hairy Cell Leukemia in Parotid Gland, Case Report and Review of the literature

Mohammed Shafi Abdul Salam [1], Shaima Al Shammari [2], Dina Ismail Abd El Razik [1], Moustafa El–Kabany [3], Ramesh Pandita [1], Ahmad Alhuraiji [1]

[1] Department of Hematology, Kuwait Cancer Control Centre, Kuwait
[2] Department of Internal Medicine, Jaber Al Ahmad Hospital, Kuwait
[3] Department of Pathology, Kuwait Cancer Control Centre, Kuwait

Abstract

Hairy cell leukemia (HCL) presenting as extramedullary disease without bone marrow infiltration is extremely rare. We report a 42–year–old male diagnosed as extramedullary HCL in right parotid gland without cytopenia, bone marrow infiltration, and splenic involvement. Immunohistochemistry of core biopsy of was positive for LCA, CD 10, CD20, CD25, BCL2, BCL6, and cyclin D1, negative for CD3, and CD5 with Ki 67 of 10–15%. Molecular analysis showed BRAF V600E mutation. He was treated with Cladribine and 8 doses of weekly Rituximab without any local radiation. Post therapy, he had very good clinical and radiological improvement with complete resolution of parotid gland lesions with mild uptake in left scapula and right femoral epicondyle in PET CT scan.

Keywords: hairy cell leukemia, parotid gland, extramedullary, without marrow involvement

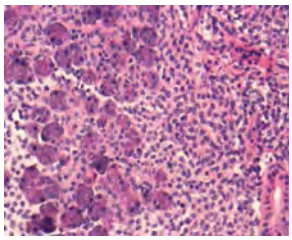
Introduction:

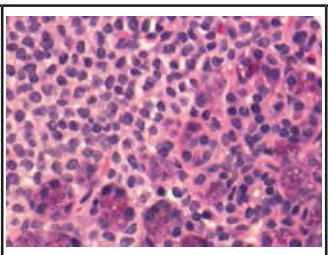
Hairy cell leukemia (HCL) is rare hematological malignancy contributing 2% with male preponderance, usually involves bone marrow, spleen, liver, and lymph nodes. There are some characteristic or unique features seen in HCL such as splenic red pulp involvement, hairy cells in blood film, fried egg appearance in bone marrow.[1] Extramedullary involvement without bone marrow infiltration is a rare entity. We report a case of extramedullary HCL in parotid gland responded well with Cladribine and Rituximab.

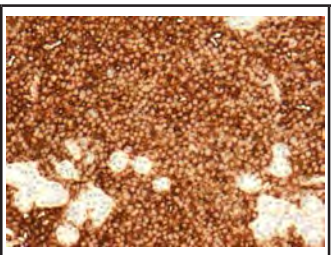
Case Presentation:

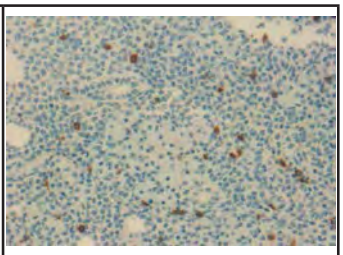
A 42–year–old male from Egypt presented to our hospital with progressive right parotid gland swelling associated with mild pain for 6 months. Clinically he had 6x6 cm swelling. Basic blood work up (CBC, RFT, LFT) were within normal range. Ultrasound of swelling showed features of acute parotitis with small reactive lymph nodes. Core biopsy of lesion showed features of hairy cell leukemia, infiltration of small to medium sized lymphoid cells with IHC positive for LCA, CD 10, CD20, CD25, BCL2, BCL6, and cyclin D1, negative for CD3, and CD5 with Ki 67 of 10–15% [Figure 1–12]. Molecular analysis showed BRAF V600E mutation. The bone marrow study did not show any marrow infiltration of hairy cell leukemia. [Figure 13–16] PET CT was done prior to treatment showed soft tissue mass (4x2.7 cm) in the superficial lobe of the right parotid gland (maximum standardized uptake value [SUVmax], 7); a metabolically active, ill–defined soft tissue mass (4.5x4 cm) in the right suprazygomatic masticator space, infiltrating the lateral pterygoid and temporalis with erosions in the mandibular condyle (SUVmax, 9.5); and metabolically active foci in both femurs, the lower sacrum, the L1 vertebra, and the left third rib (SUVmax, 8). Case was discussed in Multidisciplinary meeting, decided to give Cladribine + Rituximab. He received standard dose of cladribine for 5 days and weekly Rituximab, following the initial treatment the size reduced to 3.5x5.5 cm. He received 8 doses(total) of weekly Rituximab (375mg/m^2). During the therapy he had lower back pain radiating to his left lower limb. MRI spine showed leukemic infiltration of S3and S4 vertebrae with soft tissue extension in sacral canal, biopsy of the soft tissue lesion did not show any malignant cells. After completion of therapy PET CT showed complete resolution of right parotid lesion, mild uptake in the left scapula (SUV max, 2.6) and the right femoral epicondyle (SUV max, 2.4) [Figure 17–18] He had very good clinical and radiological improvement, now under regular follow–up.

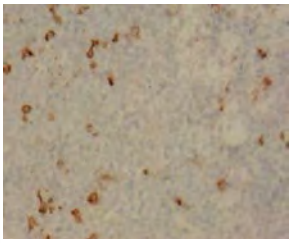
Corresponding author: Ahmad Alhuraiji, MD, MRCP, Department of Hematology, Kuwait Cancer Control Centre, Kuwait. Tel no. +965 97594447
Email id: aalhuraiji@moh.gov.kw

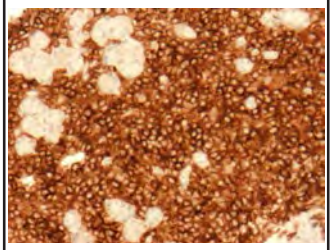

Figure 1: H&E X200

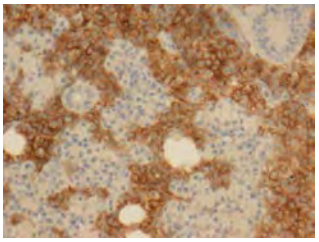

Figure 2:H&E X400

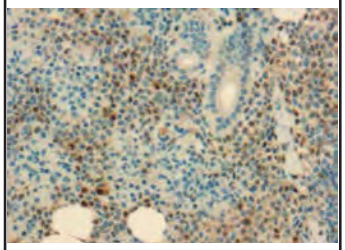

Figure 3:CD 20

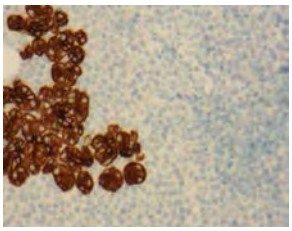

Figure 4:CD 3

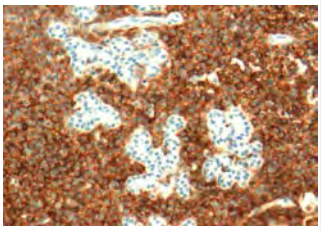

Figure 5:CD5

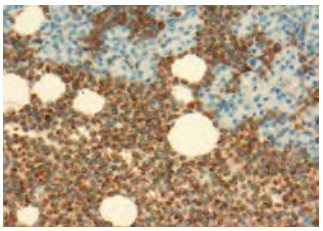

Figure 6: CD10


Figure 7: CD25


Figure 8: CCD1


Figure 9: CK


Figure 10:LCA


Figure 11: BCL2

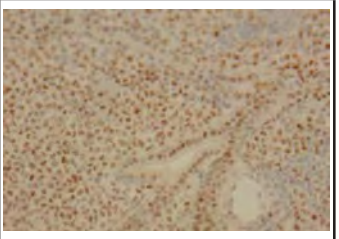
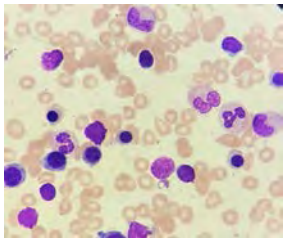
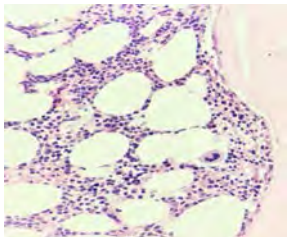
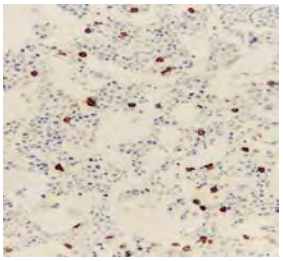

Figure 12: BCL6

Figure 1–12: Immunohistochemistry is positive for LCA, CK, CD10, CD20, CD25, B–cell lymphoma (BCL)–2, BCL6, and cyclin D1; negative for CD3 and CD5.


Figure 13: bone marrow aspirate


Figure 14: bone marrow biopsy


Figure 15: CD20 positive

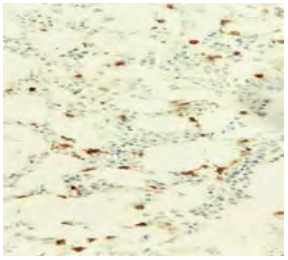
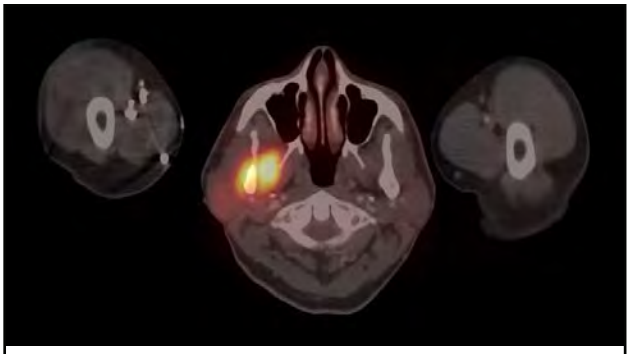

Figure 16: CD3 positive

Figure 13–16: Bone marrow aspiration smear shows myeloid and erythroid precursors in various stages of maturation, and small mature lymphocytes. Immunohistochemistry of bone marrow trephine biopsy shows few scattered small lymphocytes mixed CD20 and CD3 positivity.


Figure 17:PET CT scan before treatment

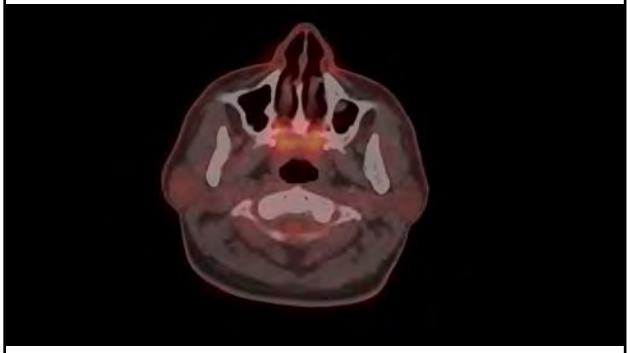

Figure 18: PET CT scan after treatment

Figure 17–18: PET CT scan showing FDG uptake in right parotid gland, before and after treatment.

Age/Sex	Extramedullary involvement	Bone marrow involvement	BRAF mutation	Treatment	Response	Reference
48 yrs Male	Duodenum	Involved	–	Cladribine	CR for 6 years after the treatment	(3)
44 yrs Female	Breast	Involved (limited)	Positive	Wait and watch	Asymptomatic after 1 year of diagnosis	(4)
52 yrs Male	Salivary gland	involved	Positive	Cladribine + Rituximab	CR for 14 months follow up	(14)
40 yrs Female	Salivary gland	Not involved	Positive	Cladribine	–	(14)
49 yrs Female	Breast	Not involved	Positive	Wait and watch	–	(16)
39 yrs Male	Parotid gland	NR	NR	Surgery and Radiation	–	(17)
42 yrs Male	Parotid gland	Not involved	Positive	Cladribine + Rituximab	CR	Current Case

Table 1: Cases of glandular involvement of hairy cell leukemia

Discussion and Conclusion:

We reviewed literature showing only a few case reports of HCL with extramedullary involvement. Bone is the most common extramedullary involvement by HCL, glandular involvement such as breast, duodenum, and salivary gland are extremely rare. Extramedullary involvement usually doesn't require any special treatment except local radiation may be required on few occasions. [2–4]_Since HCL is a low–grade malignancy, respond well to standard treatment i.e. Cladribine with or without Rituximab.[5,6] Newer therapies such as anti–CD22 immunotoxin moxetumomab pasudotox, and BRAF inhibitors are reserved only for relapse and refractory setting.[7] Our patient didn't receive any local radiation or newer therapies. Sometimes HCL can be confused with Mantle cell lymphoma due to Cyclin D1 positivity which is seen in 50–70 % and CD5 positivity is seen in 0–2% of HCL cases. [8–10] Our patient also had Cyclin D1 positivity, but BRAF V600F is the most sensitive and specific for HCL, which helps to confirm the diagnosis in such cases. Annexin A1, (another specific marker) positivity is seen in almost all cases of HCL, except in HCL–variant. [1]

Hairy cell leukemia should be differentiated from closely related lymphomas/leukemia such as Chronic lymphocytic leukemia, splenic marginal zone lymphoma, splenic diffuse red pulp lymphoma, and mantle cell lymphoma. [11] Mantle cell lymphoma usually CD5+, CD23–, cyclin D1+ and SOX11+. Most important markers helpful in diagnosing MCL are cyclinD1 and SOX11. Chronic lymphocytic leukemia presents with peripheral blood lymphocytosis, peripheral lymphadenopathy, splenomegaly with immunophenotypic markers positive for CD5 and CD23 with light chain restriction. Lymphocyte enhancer–binding factor 1 (LEF1) is a most specific immunohistochemistry marker for CLL. Splenic marginal zone lymphoma presents with splenomegaly without peripheral lymphadenopathy, involves white pulp of spleen, and non– paratrabecular lymphoid infiltrates in bone marrow. Splenic diffuse red pulp lymphoma involves red pulp of spleen similar to hairy cell leukemia. But more prominent peripheral blood involvement, typical intra sinusoidal involvement seen in in bone marrow. Immunophenotypic markers show positivity of B cell markers but lack Annexin A1, immunoglobulin D (IgD), CD5, CD25, CD103, and CD11c. [12,13]

Only a few case reports of salivary gland involvement are seen in the literature. Two cases of submandibular salivary gland involvement were reported in literature [14] [Table1]. There are no available larger studies in extramedullary involvement of HCL, since the occurrence of HCL itself is rare, contributing only 2% of hematological malignancies. Rare presentation such as CNS involvement also seen. [15]

In conclusion, extramedullary HCL doesn't require any deviation from standard therapy. Cyclin D1 positivity may confuse clinicians, but BRAF V600F mutation analysis and Annexin A1 in such cases will confirm the diagnosis. Local radiation is reserved for symptomatic or larger extramedullary lesions only.

Funding and Conflict of Interest:

Nil

References:

1. Foucar K FB, Stein H. Hairy cell leukemia. In: Swerdlow SH, Campo E, Harris NL, et al., editors. WHO classification of tumours of haematopoietic and lymphoid tissues. Revised 4th ed. IARC Press; Lyon, France: 2017.
2. Hammond WA, Swaika A, Menke D, Tun HW. Hairy Cell Lymphoma: A Potentially Under–Recognized Entity. Rare Tumors. 2017;9(1):6518.
3. Sen P, Shaaban H, Modi T, Kumar A, Guron G. Hairy Cell Leukemia Presenting with Duodenal Involvement Duodenum: A Case Report. N Am J Med Sci. 2015;7(6):288–90.
4. Pilichowska M, Shariftabrizi A, Mukand–Cerro I, Miller K. Primary hairy cell leukemia/lymphoma of the breast: a case report and review of the literature. Case Rep Pathol. 2014;2014:497027.
5. Piro LD, Carrera CJ, Carson DA, Beutler E. Lasting remissions in hairy–cell leukemia induced by a single infusion of 2–chlorodeoxyadenosine. N Engl J Med. 1990;322(16):1117–21.
6. Chihara D, Kantarjian H, O'Brien S, Jorgensen J, Pierce S, Faderl S, et al. Long–term durable remission by cladribine followed by rituximab in patients with hairy cell leukaemia: update of a phase II trial. Br J Haematol. 2016;174(5):760–6.
7. Falini B, De Carolis L, Tiacci E. How I treat refractory/relapsed hairy cell leukemia with BRAF inhibitors. Blood. 2022;139(15):2294–305.
8. Miranda RN, Briggs RC, Kinney MC, Veno PA, Hammer RD, Cousar JB. Immunohistochemical detection of cyclin D1 using optimized conditions is highly specific for mantle cell lymphoma and hairy cell leukemia. Mod Pathol. 2000;13(12):1308–14.
9. Chen YH, Tallman MS, Goolsby C, Peterson L. Immunophenotypic variations in hairy cell leukemia. Am J Clin Pathol. 2006;125(2):251–9.
10. Cortazar JM, DeAngelo DJ, Pinkus GS, Morgan EA. Morphological and immunophenotypical features of hairy cell leukaemia involving lymph nodes and extranodal tissues. Histopathology. 2017;71(1):112–24.
11. Troussard X, Cornet E. Hairy cell leukemia 2018: Update on diagnosis, risk–stratification, and treatment. Am J Hematol. 2017;92(12):1382–90.
12. Summers TA, Jaffe ES. Hairy cell leukemia diagnostic criteria and differential diagnosis. Leuk Lymphoma. 2011;52 Suppl 2(Suppl 2):6–10.
13. Menter T, Dirnhofer S, Tzankov A. LEF1: a highly specific marker for the diagnosis of chronic lymphocytic B cell leukaemia/small lymphocytic B cell lymphoma. J Clin Pathol. 2015;68(6):473–8.
14. Liu H, Wang W, Tang G, Yin CC, Muzzafar T, Medeiros LJ, et al. Lymphomatous variant of hairy cell leukaemia: a distinctive presentation mimicking low–grade B–cell lymphoma. Histopathology. 2015;67(5):740–5.
15. Perry AM, Matsuda K, Wadhwa V, Hewitt D, Almiski M, Johnston JB, et al. Multifocal brain involvement in a patient with hairy cell leukemia successfully treated with rituximab and cladribine. Blood Adv. 2017;1(14):899–902.
16. Morgan EA KL, Georgian–Smith D, Owings RA, Pinkus GS, DeAngelo DJ. Hairy cell leukemia presenting as a palpable breast mass. Journal of Hematopathology. 2014;7:181–
17. Waxman JH. Hairy cell sarcoma. Postgrad Med J. 1983;59(687):40–2.