ORIGINAL RESEARCH PAPER
Volume-8 | Issue-10 | October - 2019 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SYNCHRONOUS MANTLE CELL LYMPHOMA AND PROSTATE ADENOCARCINOMA

Pathology

Dr Rahul Ranka 2nd Year Resident, Department of Pathology, Gujarat Cancer and Research Institute, Ahmedabad

Dr Beena Brahmbhatt* Assistant Professor, Department of Pathology, Gujarat Cancer and Research Institute, Ahmedabad *Corresponding Author

ABSTRACT

We describe a rare case of synchronous mantle cell lymphoma and metastatic prostate cancer to bone marrow as the second malignant disease. Various diagnostic procedures, including bone marrow aspiration ,bone marrow biopsy, flow cytochemistry and immunohistochemistry analyses together contributed to the detection of metastasis of prostate cancer and synchronous lymphoid cell proliferation in the bone marrow. The association between these two disorders is poorly understood however, some studies show that bone marrow microenvironment may play a crucial role. The need for further research in this regard is required to unfold this fascinating association.

KEYWORDS

1. INTRODUCTION -

Collision tumors are defined as multiple synchronous tumors that are histologically distinct and in juxtaposition to one another occurring at same anatomical site whereas Composite tumors are defined as tumors in which there are two different intermixed histologic types. A Collision tumor, comprising of metastatic epithelial malignancy and lymphoma is very rare. Hence it is not yet clear if its occurrence is coincidental or due to common pathogenesis.

2. CASE HISTORY

- We present a case of a 68 year old male patient presented in February 2017 for lower abdominal pain and generalized weakness for 1 year. Patient had history of urinary complaints since 2013. USG showed mild prostate enlargement and Prostate specific antigen (PSA) was 6 ng (normal level 1 to 4 ng), patient underwent urethroplasty for urethral stricture, but the complaints were persistent. On physical examination, the patient was well oriented and in good general condition.
- USG abdomen and pelvis findings- Prostate measured 37 ×26 ×38 mm and appeared heterogeneously hypoechoic and showed vascularity in peripheral zone .Capsule of prostate appeared irregular at its upper part and was advised for further investigation.
- Computer tomography (CT) abdomen and pelvis- Presence of multiple nodes are noted in preparaaortic, retrocaval, aortocaval, along bilateral external iliac vessels. Presence of ill defined sclerotic lesions are noted involving vertebrae; possibility of metastasis was given.
- Clinical diagnosis of prostatic adenocarcinoma with lymph node metastasis and vertebral metastasis was considered.
- Routine blood picture in February 2017 showed Hemoglobin (Hb) -10.9g/dl, Total Leucocyte count 46000/cmm with its differential count polymorphs 16 % and lymphocyte 84% with Platelets 84000/cmm. Peripheral smear showed atypical lymphoid cells which were uniform with irregular cytoplasmic outlines and nuclear chromatin is coarsely clumped with inconspicuous nucleoli
- Blood chemistry showed LDH-272u/l(normal value-140-280u/l), PSA-2389ng.
- Bone marrow aspiration and trephine biopsy examination showed two population of cells with infilteration of singly and medium to large clusters of scattered malignant epithelial cells with moderate N:C ratio, moderate basophilic cytoplasm, few cells showing cytoplasmic vacuoles, hyperchromatic nuclei and large paratrebecular aggregate of small lymphoid cells. Immunohistochemistry (IHC) done on trephine biopsy showed CD20+ in lymphoid cell population and AE1+, PSA + in epithelial cells.
- Immunophenotyping (IPT) in peripheral blood was done- 57% lymphocytes were gated using CD 19 APCH7 vs. SIDE SCATTER. The lymphocytes mainly expressed CD5, FMC7, CD20 ,KAPPA, CD 56, SIgM, CD79b, CD45 and negative for CD 23, CD2,CD3,CD10 and LAMDA.
- With help of Clinical-Radiological and Pathological correlation synchronous occurence of Mantle cell lymphoma(MCL) and metastatic prostate adenocarcinoma (PAC) in bone marrow was made.

3. Pathological examination-

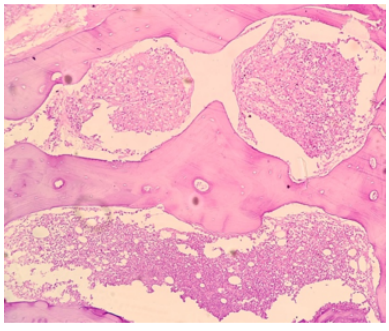

Figure 1- trephine biopsy show two cell population a) epithelial cells, b) atypical lymphoid cell population

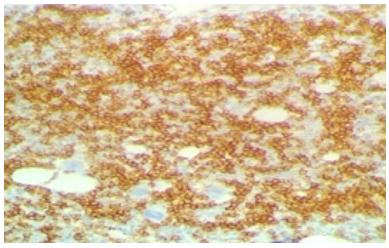

Figure 2- CD 20 positive lymphoid population.

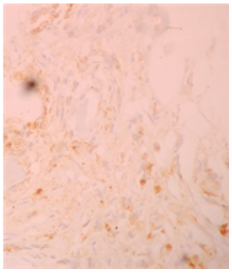

Figure 3- PSA positive epithelial cells.

4. DISCUSSION –

- · The incidence of the simultaneous occurrence of prostate cancer and hematolymphoid malignancy has been reported to be 1.2 %.However, synchronous diagnosis of a mantle cell lymphoma and prostatic adenocarcinoma in the same patient is very rare. Even more rare is prostatic cancer metastatic to bone

marrow and synchronous mantle cell lymphoma.[1]

- Mantle cell lymphoma is a B cell neoplasm arising from a subset of naïve pregerminal centre cells of primary follicles or in the mantle region of secondary follicles.[2] Rare cases with the morphology and phenotype of MCL are negative for cycline D1 and t(11:14)(d13,q32) but have gene expression and global genomic profiles as well as other features, including clinical presentation and evolution are indistinguishable from those of Cycline D1 positive MCL.[3]
- Simultaneous CD23/ FMC 7 expression pattern, as defined by Immunophenotyping in conjunction with other antibodies is a valuable contribution toward accurate and reproducible classification of B cell proliferative disorder.[4]
- MCL and PAC are diseases of predominantly elderly male population. However, co-occurrence of both diseases in the same patient at presentation has been rarely described in the literature.[5]
- Due to the rare occurrence, there are no specific recommendations for the therapy. Some recommend treatment depending on the dominant tumor, but those treatment options appear to exacerbate the other tumor. Our patient did not take any treatment and was lost to follow up.

2. CONCLUSION –

This case points out that elderly males needs careful observation during staging procedure for lymphoma and in any case of prostatic enlargement. We can only assume that the only visible connections in synchronous MCL and PAC are older age at onset and male gender, or these findings remain just coincidental.

6. REFERENCES

1] Tushar shegal,sudha Sharma, Synchronous occurrence of Prostate Carcinoma and multiple myeloma Case report 2014

2] Ashish B. Rajput, Bruce Burns, Ronald Gerridzen, Coexisting Mantle Cell Lymphoma and Prostate Adenocarcinoma Case report 2014

3] Steven H. Swerdlow,Elias Campo,Nancy Lee Harris, Elaine S. Jaffe ,Stefano A. Thiele, Arber, Robert P. Hasserjian, michelle M le Beau, Attilio Orazi, Reiner Siebert, WHO Classification of Tumors of Haematopoietic and Lymphoid Tissue 2017 Revised Edition.

4] Clinical utility of CD23 and FMC7 Antigen Coexistent Expression In B – Cell Lymphoproliferative Disorder Subclassification Ejaz Ahmad,Diana Gracia,and Bruce H. Davis cytometry(clinical cytometry)50:1(2002)

5] He H, Cheng L, Weiss LM, Chu PG. Clinical outcome of incidental pelvic node malignant B-cell lymphomas discovered at the time of radical prostatectomy. Leuk Lymphoma 2007;48(10): 1976−80. Rajput AB, Burns B, , van der Jagt R. Coexisting mantle cell lymphoma and prostate adenocarcinoma. Case Rep Med 2014; 2014: 247286