



Rare Case of Acute Myeloid Leukemia with Granulocytic Sarcoma – A Case Report

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Abstract

Granulocytic sarcoma (GS) is an extramedullary tumor of immature myeloid cells. The term 'chloroma' was used by King due to the green appearance of the tumor cells when exposed to the air. The other synonyms used for this entity are myeloblastoma, myelosarcoma or extramedullary myeloid tumor. Myeloid sarcoma is composed of myeloid blasts, similar to AML—that is, immature granulocytic precursors, monocytic precursors, erythroid precursors, or even megakaryocytic precursors. GS can be isolated or encountered during the course of Acute Myeloid Leukemia, Chronic Myeloid Leukemia, myeloproliferative disorders. Here we report such case of 35 year old male who was admitted with chest wall mass diagnosed as Granulocytic sarcoma associated with Acute Myeloid Leukemia. Patient had complete remission after treatment.

Introduction

Granulocytic sarcoma (GS) is an extramedullary tumor of immature myeloid cells. The term 'chloroma' was used by King due to the green appearance of the tumor cells when exposed to the air. The other synonyms used for this entity are myeloblastoma, myelosarcoma or extramedullary myeloid tumor. Myeloid sarcoma is composed of myeloid blasts, similar to AML—that is, immature granulocytic precursors, monocytic precursors, erythroid precursors, or even megakaryocytic precursors. GS can be isolated or encountered during the course of Acute Myeloid Leukemia, Chronic Myeloid Leukemia, myeloproliferative disorders. The most common areas of involvement are the skin (also known as leukemia cutis) and the gums. Skin involvement typically appears as violaceous, raised, nontender plaques or nodules, which on biopsy are

found to be infiltrated with myeloblasts. Lymph nodes and soft tissue infiltrations, except to giant masses, responds dramatically to systemic chemotherapy. Here we report such case of 35 year old male who was admitted with chest wall mass diagnosed as Granulocytic sarcoma associated with Acute Myeloid Leukemia. Patient had complete remission after treatment.

Case Report

A 35 year old male patient was admitted with complaints of swelling over centre of chest since 4 months. The swelling is insidious in onset, gradually progressive, associated with redness. It is not associated with pain, ulceration, discharge. There is no history of fever, loss of weight, loss of appetite, trauma. General examination is normal. Local examination showed a 7x5 cm size, oval

swelling over lower sternum, non tender, firm in consistency, immobile, skin over the swelling is pinchable, erythematous, blanches with pressure, no local rise of temperature, no ulceration, no discharge, no sternal tenderness. His systemic examination is normal. His investigations are as follows: Complete blood picture – TC : 36,000 cells/cu mm, out of which Blasts 91%, 1-2 Auer rods seen in the blasts, Myelocytes 1%. Peripheral smear reported as Acute Myeloid Leukemia without maturation (AML M1). CECT Chest reported as 7x3.4cm soft tissue mass in anterior part of lower chest (anterior to sternum). Bone marrow aspiration reported as Acute Myeloid Leukemia. Fine needle core biopsy of chest wall swelling reported as Granulocytic Sarcoma. Flow cytometry : CD34 / HLA DR / CD38 / CD13 / CD117 / CD45 / CD19 / CD56 / MPO +ve ; reported as Acute Myeloid Leukemia. Patient was given Induction therapy with standard 3/7 DNR (daunorubicin 80mg) + Ara-C (cytarabine 186mg) and Consolidation therapy with high dose Ara-C (5000mg) i.v infusion over 3hrs twice on D1,3,5. Chest wall mass completely shrunken off after the completion of induction therapy. Patient had complete remission after treatment.



Granulocytic sarcoma – before chemotherapy



Granulocytic sarcoma completely shrunken off after chemotherapy

Discussion

This is a case of 35year old male who was admitted with chest wall mass diagnosed as Granulocytic sarcoma associated with Acute Myeloid Leukemia. Patient had complete remission after treatment. The incidence of GS in AML is 3–5%¹. The most common localizations are skin, soft tissues, bone, periosteum and lymph nodes². This rare presentation, often characterized by chromosome aberrations [e.g., monosomy 7, trisomy 8, MLL rearrangement, inv(16), trisomy 4, t(8;21)], may precede or coincide with AML. GS is characterized by the formation of an invasive, expansive and destructive tumor mass that is composed of immature cells of granulocytic series³. Systemic chemotherapy with or without local radiation may result in high remission⁴.

Conclusion

Acute Myeloid Leukemia presenting as Granulocytic Sarcoma is relatively uncommon. This rare case presented with chest wall mass diagnosed as Granulocytic sarcoma associated with Acute Myeloid Leukemia. Patient had complete remission after chemotherapy.

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