Case Report

PAINLESS LUMP IN THE BREAST–AN UNUSUAL PRESENTATION OF CHLOROMA

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INTRODUCTION

Chloroma (also known as granulocytic sarcoma or myeloid sarcoma) is a rare solid extramedullary tumour composed of immature granulocytic cells. It was first described in 1811 by Burns1 and named “chloroma” by King2 in 1853 because of its green color. Its relationship with leukemia was later established in 18933.

This is an uncommon complication of acute and chronic myeloid leukemia and may appear at any time during the course of the disease. Sometimes patients of acute myeloid leukemia can present with tumours in other areas like the spinal cord, maxilla, eye etc. We are reporting a case of chloroma who presented with a painless lump in the breast and was diagnosed when she was referred for fine needle aspiration cytology (FNAC).

CASE REPORT

A 22 year old female presented with a lump in her right breast in the subareolar region. It had been present for the past 6 months. The patient had noticed it accidentally and she did not bother about it for a few months, but the lump had gradually increased in size. She consulted a surgeon who referred her for FNAC of the swelling. The lump measured 4.0×3.0 cm. The skin over it was normal. It was mobile and non tender. FNAC was done. An enlarged lymph node was also palpable in her right axilla. It measured 1.5×1.5 cm. FNAC of this was also done. A lymph node was also palpable in the inguinal region but was small in size. On account of enlargement of multiple lymph nodes a peripheral blood smear was also taken. Smears from the breast lump (Figure 1 and 2) and from the axillary nodule revealed large cells with abundant cytoplasm and some of these cells contained granules. The peripheral smear (Figure 3) revealed the presence of blast cells which were 70% of the total. Some of the blast cells showed auer rods (Figure 4). Platelets were also reduced on the smear. As the peripheral film showed blast cells a bone marrow was advised.

The bone marrow (Figure 5) was aspirated from posterior iliac crest and showed hypercellular smears and cell trails. Erythropoeisis, myelopoeisis and megakaryopoiesis were suppressed. The smear was diffusely infiltrated by blast cells which comprised of 90% of the nucleated cells. Most of the blast cells had abundant cytoplasm showing scanty granules. Some of the blast cells showed Auer rods. Sudan B black (Figure 6) was done for confirmation of the suspected diagnosis. The picture was consistent with acute myeloid leukemia. It was graded to be M1 according to the FAB classification.

DISCUSSION

The word chloroma is derived from the Greek word chorlos, as the tumours had a green tinge due to the presence of myeloperoxidase. It is not essential that all chloromas are green. The other synonyms are granulocytic sarcoma, extramedullary myeloid tumour and myeloblastoma. The tumour may rarely precede the onset of leukemia by many months4 but usually it is found during the course of the disease or even during the remission. Chloromas are rare lesions with an incidence of 3-4.7% of the chronic myeloproliferative disorders5.
Figure 1. FNAC of the breast lump (Low power view)

Figure 2. FNAC of the breast lump (High power view)
Figure 3. Peripheral film of the patient (High power view)

Figure 4. Granules and auer rod in blast cell
Figure 5. Bone marrow of the patient

Figure 6. Sudan B black on the bone marrow
Chloromas can develop in any part of the body\(^6\). The tumour can spread from the bone marrow through the Haversian canals and can infiltrate the periosteum, particularly of the skull, sternum, ribs, spine, sacrum and proximal portions of the long bones. From here, the chloroma cells spread to the blood invading any organ. The most common sites of tumour invasion are the peritoneum, pericardium, bronchus, bladder, mediastinum, kidneys and lung\(^7,11\). In addition chloromas can also develop in the soft palate, the rhinopharynx, orbit, salivary glands, scalp and face.\(^12\) Uncommon sites of chloroma localization are: the jaw\(^13,14\), facial nerve\(^15\), lips\(^16\), nasal cavity\(^17\), maxilla\(^18\) and temporal bone.\(^19\) As the chloromas can occur in different areas of the body the clinical effects will be dependent on the site of the lesions. In our case patient presented with a lump in the breast. She never had any tests done. After she was diagnosed as a case of acute myeloblastic leukemia (AML) a review of her symptoms revealed that she had been having progressive weakness which was associated with fever. Had the finger prick not being performed the diagnosis of AML would have not been possible in this case. The tumours that can be confused with chloroma are histiocytic lymphoma, poorly differentiated lymphoblastic lymphoma, lymphoma with large cells, Ewing sarcoma, some acute lymphocytic leukaemia as well as primitive neuroepithelial tumours.\(^20\)

**CONCLUSION**

Peripheral smear of a patient with multiple lymph nodes is very helpful in establishing the diagnosis especially leukemia.

**REFERENCES**


