Unusual Case of ALL with Ovarian Relapse

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Abstract Patients with acute lymphoblastic leukemia (ALL) can develop relapse in sanctuary sites like brain, ovary or testis even when the bone marrow is in remission. Pelvic recurrence is rarely reported during the follow up of successfully treated ALL in females. We report here a very unusual case of a large pelvic lump which the patient herself could feel, that was probably an ovarian relapse of ALL, successfully treated with re-induction chemotherapy alone and achieved complete remission.

Keywords ALL · Relapse · Ovary · Malignancy

Case History

17 years old female patient diagnosed as acute lymphoblastic leukemia (ALL)—L2, who completed treatment on MCP 841 regime and was on follow up till 1 month prior to the present admission. She first presented to the emergency surgery with abdominal pain which was vague, dull aching and intermittent. There was no vomiting, diarrhoea, fever or constitutional symptoms associated with abdominal pain. She herself was able to palpate a lump in her abdomen.

The general physical examination was unremarkable with no lymphadenopathy, pallor, icterus or edema. There was no hepatosplenomegaly, but she had an abdominal mass palpable in the suprapubic and right and left iliac fossa extending up to the right and left lumbar regions and

epigastric region with all the features of a mass arising from the pelvis. The lower border of the mass could not be reached as it was extending into the pelvis. Mobility was restricted and had an irregular surface. Ultrasonogram of the abdomen showed lobulated conglomerate abdomino-pelvic mass lesion with central vascularity reported as Adnexal solid organ mass or possible conglomerate lymphadenopathy. Knowing the clinical background it was most likely the former.

Complete haemogram, peripheral smear and bone marrow study at this time did not show any evidence of relapse. CECT abdomen was taken which showed enhancing soft tissue density lesion in pelvis extending to abdomen towards right, the lesion approximately measures 15×20 cm with no calcification, uterus and ovaries not separately made out from the lesion (Fig. 1). Bowel loops displaced laterally and superiorly, possibly solid ovarian mass or lymphoid mass.

USG guided FNAC of the mass lesion on Giemsa staining showed infiltration by leukaemic cells (Figs. 2, 3, 4). LP study was done to rule out CNS involvement. Surgical and radiotherapy consultations were done. Surgical excision was impossible as the tumor was large with wide extension and infiltration around major blood vessels. Radiotherapy for cyto-reduction also had risk of bowel perforation due to large field of radiation. The only option before us was re-induction with MCP841 regime which was restarted on 18 December 2012. By the time chemotherapy was started the mass was filling almost all of her abdomen.

After three doses of L-asparaginase, on day 7 of chemotherapy clinical evaluation revealed decrease in size of mass per abdomen. USG was taken which showed decrease in size of mass to <5 cm. She had L-asparaginase induced pancreatitis after three doses, which was managed

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Fig. 1 CECT abdomen showing the lump on the *left side* extending up to the liver

Fig. 2 FNAC from the lump: blasts under oil immersion

Fig. 4 Papanicolaou's stain showing blasts (better for nuclear features)

Fig. 3 Geimsa stain showing a monotonous population of blasts (blast morphology better seen with romanowsky stain)

conservatively. On continued chemotherapy by day 20 (10th dose L.asp), the mass was not palpable per abdomen, USG abdomen showed no evidence of residual lesion.

Discussion

Testis is a rather common and important site of relapse in childhood in a patient with ALL [5, 6]. It is because of this reason that the prognosis of ALL in girls is better than boys. Although leukemic infiltration of ovary has been reported in autopsy series (Husty and Aur 1978), reports of clinical ovarian relapses are uncommon [2].

The case illustrates the possibility of ovarian relapse in ALL in the presence of hematologic remission. In 1981 Chu and colleagues described a teenage girl with ALL who developed ovarian relapse with normal uterus, while bone marrow was in remission [1]. Although pelvic relapse is uncommon in females with ALL it may become a more common problem as increasing number of patients surviving longer using combination chemotherapy. In this case USG was not performed before clinical detection of palpable mass to know whether it was there before or not, but it seems unlikely.

Pelvic USG was performed in 15 girls with ALL in complete remission as a part of a study which included invasive and non-invasive tests to detect occult extra-medullary disease before discontinuation of chemotherapy [3]. There was no ultrasound evidence of ovarian enlargement in any of them. However, since pelvic relapses other than ovarian relapse may be difficult to diagnose early, pelvic USG may be done on follow up but needs further evaluation as a method to screen for pelvic relapse in ALL [4].

References

1. Chu JY, Craddock TV, Danis RK, Tennant NE (1981) Ovarian tumor as manifestation of relapse in acute lymphoblastic leukemia. *Cancer* 43:377
2. Histu HO, Aur RJ (1979) Extramedullary leukaemia. *Clin Haematol* 7:313
3. Mahoney DH, Gonzales ET, Ferry GD, Sanjad SD, Van Noorden G, Fernbach DJ (1981) Childhood acute leukaemia, a search for occult extramedullary disease prior to discontinuation of chemotherapy. *Cancer* 48:1964
4. Cecalupo AJ, Frankel LS, Sullivan MP (1979) Pelvic and ovarian extramedullary leukemic relapse in young girls. *Proc Am Assoc Cancer Res* 20:365
5. Eden OB, Hardisty RM, Innes EM, Kay HEM, Peto J (1971) Testicular disease in acute lymphoblastic leukaemia in childhood. *Br Med J* 1:344
6. Oakhill A, Mainwaring GD, Hill FGH, Gornall P, Cud-More RE, Banks AJ, Brock JES, Martin J, Mann JR (1980) Management of leukaemic infiltration of the testis. *Arch Dis Child* 55:564