

Endovascular Coiling Of Ruptured Internal Iliac Artery Aneurysm In A Leukemia Patient-A Case Report

AK GUPTA

Abstract

Endovascular occlusion of isolated internal iliac artery aneurysm is a safe and effective procedure. We report a case of coiling of a ruptured Internal Iliac artery aneurysm in a leukaemia patient with intramuscular haematoma achieving an excellent immediate result and no recanalisation on 6 month follow up.

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Key words : - Endovascular Coiling, Internal Iliac Artery Aneurysm, and Leukaemia.

INTRODUCTION:

Endovascular coiling is a safe and effective procedure to occlude an isolated Internal Iliac Artery Aneurysm to prevent rupture or in a ruptured aneurysm to prevent further haemorrhage. Aneurysm as an association of leukaemia is rare; aetiology could be possibly mycotic or a purely incidental coexistence. Eventhough systemic medium sized vessel vasculitis and bleeding manifestations has been described in leukaemia, aneurysm as such is very rare. We report a case of coiling of a ruptured Internal Iliac artery aneurysm in a leukaemia patient with intramuscular haematoma achieving an excellent immediate result and no recanalisation on 6 month follow up.

CASE REPORT

A 16-year-old male patient presented with history of generalised weakness since 1 month, dyspnoea on exertion, and fever. He had no bleeding manifestations. On examination, he had pallor, generalised lymphadenopathy and hepatosplenomegaly. On laboratory investigation haemoglobin was 6.5 gm%; Total leukocyte count was 3200/mm³, Differential count - P65, L34, E11, platelet count 60,000/mm³. He had pancytopenia. Liver function tests and renal function tests were normal. Blood and urine culture were sterile. Chest X-ray was within normal limits. Fine needle aspiration cytology from cervical lymph node was inconclusive. Bone marrow aspiration showed hypercellular marrow with 98% blast cells, which were peroxidase negative, CD19 positive, CD7 and CD13 negative. A diagnosis of precursor B cell lymphoblastic leukaemia was made.

Later he developed loose stools for 2 days following which he noted pain on movement of right hip. He was afebrile at this time. There was no history of trauma. On examination there was a vague mass in right iliac fossa. Ultrasound examination showed a heteroechoic lesion suggestive of haematoma in the right iliacus muscle measuring 7.1 x 4.8 x 5.6 cm pushing the external iliac vessels anteriorly. Colour Doppler imaging (Fig.1) showed a 2.4 x 1.8 cm sized aneurysm arising from the right internal iliac artery branch with haematoma around it extending into iliacus muscle. No free fluid was detected in pelvis or abdomen. There was hepatosplenomegaly. Lower limb arteries showed normal flow. X-ray of pelvis showed no bony abnormalities. CT scan confirmed the findings. It was decided to undertake endovascular coiling of the aneurysm. Through left femoral route, using Seldinger technique a flush aortogram was done which revealed a saccular aneurysm 2.4 x 1.8 cm in size arising from the posterior division of right internal iliac artery (IIA)(Fig.2). Thereafter a 6F crossover iliac sheath (Balkin sheath, Cook Corporation, USA) was passed in to right common iliac artery by a cross over technique and angiogram performed, which confirmed the finding (Fig3). Then 6F right coronary catheter (Cordis Corporation, Miami, Fl.) was introduced through the sheath and coils were used initially to occlude the aneurysm and origin of the branches arising from it (Fig.4). Then the feeding internal iliac artery was also occluded with coils. A total of six coils (2 fibre coils and 4 stainless steel Cook coils, Cook Corporation, USA) were used and total occlusion of aneurysm and right internal iliac artery achieved. Post coiling check angiogram showed no filling of aneurysm (Fig.5). There was retrograde filling of branches of right internal iliac artery via left internal iliac artery collaterals,

From the Dept. of Imaging Sciences & Inturectal Radiology, SCTIMS, Thiruvnathpuram-695011

Request for Reprints: Dr. AK Gupta, Dept. of Imaging Sciences & Inturectal Radiology, SCTIMS, Thiruvnathpuram-695011

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but no aneurysm filling was seen (Fig.6). Follow up colour Doppler scans were done monthly which showed no residual aneurysm for the past six months and the haematoma gradually resolved.

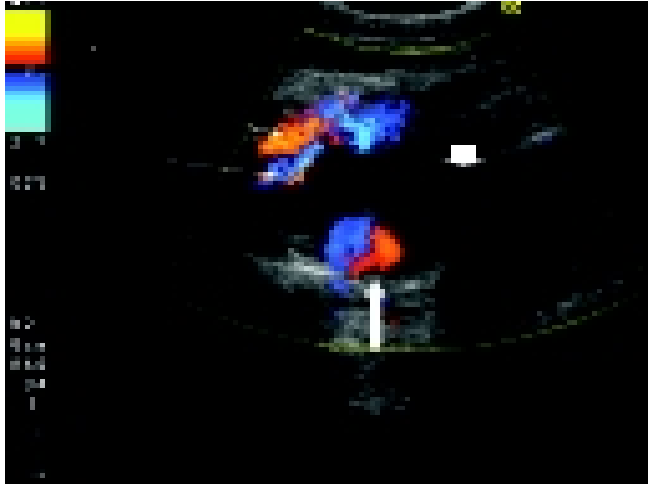


Fig.1: Colour Doppler imaging shows the Right Internal Iliac Artery (IIA) aneurysm (long thick arrow) with haematoma around it extending into iliacus muscle (short thick arrow). Iliac artery (short thin arrow) and Iliac vein (long thin arrow) are also seen.



Fig.2: Aortogram shows a saccular aneurysm 2.4 x 1.8 cm in size arising from the posterior division of right IIA



Fig.3: Selective Right Internal Iliac Angiogram shows the IIA aneurysm

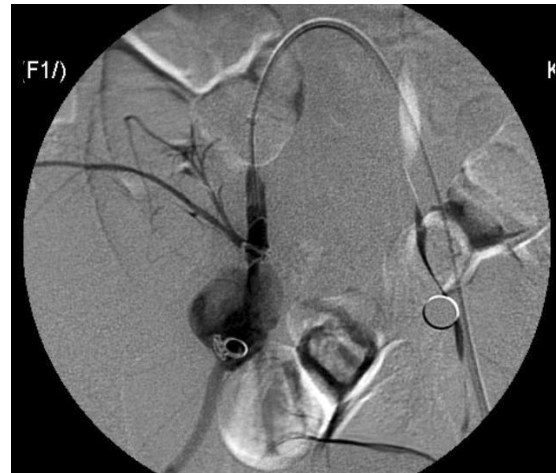


Fig.4: Coiling of aneurysm and branches arising from it via 6F right coronary catheter in the Right IIA introduced through Muller Sheath

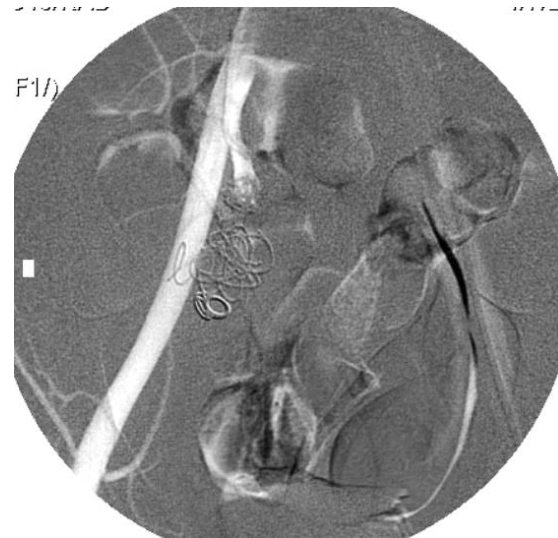


Fig.5: Right Common Iliac Angiogram shows coil mass-producing total occlusion of the IIA aneurysm and Right IIA



Fig.6: Post coiling Aortogram shows coil mass-producing total occlusion of the IIA aneurysm and Right IIA with retrograde filling of its branches from Left IIA branches.

DISCUSSION:

Endovascular occlusion of isolated internal iliac artery aneurysm is a safe and effective procedure [1]. This prevents the rupture of these aneurysms [2]. However the retrograde filling of aneurysm through collaterals cannot be ruled out. Ideally, distal branches arising from the aneurysm also must be occluded along with aneurysm occlusion and occlusion of distal part of the feeding artery. In our case, this technique was used to occlude an already ruptured aneurysm with intramuscular haematoma to prevent further leakage of blood endangering the patient's life. The cross over technique via an opposite femoral puncture made the procedure easy. Williamson et al. [3] have reported a case of endovascular repair of a ruptured abdominal aorta and iliac artery aneurysm with an acute ilio caval fistula secondary to lymphoma.

Eventhough recanalisation is extremely rare, there has been a previous case report by Yasui et al. about such an incident 24 months after endovascular repair of a large internal iliac artery aneurysm [4]. So this case will be kept under follow up at least for 2 to 3 years.

The presentation of internal iliac artery aneurysm may be with lower abdominal pain, hip pain, mass or even colonic obstruction due to compression or rectus sheath haematoma [5,6]. Association with leukaemia is rare. The aetiology of the ruptured aneurysm in the lymphoma case reported by Williamson et al. was eroding lymph nodes. Systemic C-ANCA negative polyarteritis nodosa type vasculitis has been described in 8 patients with chronic myelomonocytic leukaemia by Hamidou et al [7].

No definite etiological factor could be identified in our case. Possibility of mycotic aneurysm was considered but blood and urine culture were sterile and total leukocyte count was reduced and differential leukocyte count was normal. There was pancytopenia. The patient was on antibiotic therapy when he was diagnosed to have the aneurysm. No history of trauma was elicited. No complication was seen in our case.

So, endovascular coiling is a safe and effective mode of treatment in case of ruptured aneurysms arising from visceral vessels to prevent further bleeds from the aneurysm endangering the life of the patient.

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