

# Primary adrenal insufficiency in case of antiphospholipid syndrome

Debmalya Sanyal, Moutusi Raychaudhuri<sup>1</sup>

Departments of Endocrinology, KPC Medical College, <sup>1</sup>Institute of Child Health, RTIICS, Kolkata, West Bengal, India

### ABSTRACT

Addison's disease or primary adrenal insufficiency (PAI) is a rare manifestation of antiphospholipid syndrome (APS). PAI is the most common among the endocrinologic manifestations and can also rarely be the presenting symptom of APS. Venous thrombosis and/or adrenal hemorrhage are the leading cause of PAI in APS. Autoimmune adrenal failure is postulated to be another possible mechanism. We report a case of PAI in a 44-year-old lady preceding primary APS, probably autoimmune, without any evidence of adrenal hemorrhage or infarction. High index of clinical suspicion for PAI in APS is needed; conversely APS should be considered as a possible pathogenetic process in patients presenting with Addison's disease where the etiology is not obvious.

**Key words:** Antiphospholipid syndrome, autoimmune, primary adrenal insufficiency

## INTRODUCTION

Primary adrenal insufficiency (PAI) is a well-recognized, albeit rare, manifestation of antiphospholipid syndrome (APS) we report a case of PAI in a 44-year-old lady preceding primary APS.

## CASE REPORT

A 44-year-old lady presented with hemoptysis, cough and shortness of breath. She had a 3-month history of progressive darkening of skin along with weakness, anorexia, nausea and weight loss of 3 kg over 1 month. She had a past history of a first trimester abortion. History of deep vein thrombosis, pulmonary embolism, connective tissue disorder was ruled out. Her body mass index was 18, goiter was absent, she had tachycardia (pulse rate 110/min) and blood pressure was 108/76 mm Hg with postural drop of 26. Pallor and skin and mucosal pigmentation were present.

On investigations: Hb 11.6 g%, total cholesterol 10,100 (N 72%, L 23%, E 5%), erythrocyte sedimentation rate:62 (1<sup>st</sup> h), platelets 86,000, urine R/E normal, Cr 1.1 mg/dl, liver function tests normal, echo normal.

Chest X-ray showed right middle zone opacity. Computed tomography (CT) scan of lungs revealed subpleural consolidation in mid and lower zones of the right lung with ground glass opacity and areas of hemorrhage and filling defect in right descending pulmonary artery. CT pulmonary angiography confirmed right descending pulmonary artery embolism. Duplex scan revealed right superficial femoral vein thrombosis. Renal and adrenal veins were normal in Duplex scan and magnetic resonance angiography (MRA).

Prothrombin time was 13.8 (normal [N] 11.2-14.2), activated partial thromboplastin time 142 s (N 31-42), fibrin/fibrinogen degradation products was raised, lupus anticoagulant and anticardiolipin antibody were markedly positive. Anti-nuclear antibodies, double-stranded deoxyribonucleic acid, anti-neutrophil cytoplasmic antibody and rheumatoid factor were negative. Human immunodeficiency virus and hepatitis serology was negative. Sputum and blood for Bactec culture for acid-fast bacteria and fungus was negative.

Baseline 8 A.M. cortisol was 2.3 mcg/dL with an adrenocorticotrophic hormone (ACTH) of 306 pg/ml.

#### Access this article online

##### Quick Response Code:



Website:  
www.ijem.in

DOI:  
10.4103/2230-8210.119590

**Corresponding Author:** Prof. Debmalya Sanyal, 36 Block H, New Alipore, Kolkata, West Bengal - 700 053, India.

E-mail: drdebmalysanyal@gmail.com

250 mcg ACTH stimulation test showed a 1-h cortisol level of 2.5 mcg/dL. Thyroid function test was normal, but thyroid peroxidase antibody was 590 mU/ml (normal <35). Follicle-stimulating hormone was 7 mIU/ml. CT of adrenals was normal.

Based on clinical features and investigations our diagnosis was PAI probably of autoimmune nature in a case of pulmonary thromboembolism due to APS along with autoimmune thyroid disease. Our limitations: Antiadrenal antibody not estimated.

She was started on hydrocortisone 100 mg three times daily and heparin. She was subsequently discharged on replacement dose of hydrocortisone and warfarin. After 6 months follow-up, the patient did not have further thrombotic episodes and requires replacement hydrocortisone.

## DISCUSSION

PAI is the most common among endocrinologic manifestation and can be the presenting symptom of APS.<sup>[1]</sup> In patients with autoimmune thyroid disease circulating antiphospholipid antibodies (aPL) has been detected.<sup>[1]</sup> Circulating aPL has been detected in some cases of autoimmune thyroid disease, hypopituitarism (including a case of Sheehan's syndrome), diabetes mellitus and rarely ovarian and testicular disease.<sup>[2]</sup> Our case was similar with features of PAI and euthyroid autoimmune thyroid disease in a case of APS. Adrenals are the most commonly involved glands in the APS.<sup>[1]</sup> PAI in APS occurs commonly due to venous thrombosis and/or adrenal hemorrhage, another possible mechanism is autoimmune adrenal failure.<sup>[3]</sup>

Although Addison's disease is a well-recognized, albeit rare, manifestation of the APS, in our case, the Addison's disease preceded other clinical evidence of the syndrome by several months. This was in variance with previous cases described in the literature. A literature review of PAI in APS by Espinosa *et al.* found that 36% patients presented with adrenal insufficiency as the first clinical manifestation of APS.<sup>[3]</sup> Abdominal pain was present in 55% of patients, followed by hypotension (54%), fever (40%), vomiting (31%), fatigue (31%) and lethargy or altered mental status in 19%.<sup>[4]</sup> CT in PAI with APS showed adrenal gland enlargement consistent with hemorrhage with histopathology showing hemorrhagic infarction and thrombosis in over 80% of the cases.

Presotto *et al.* reported a case of acute adrenal failure as the heralding symptom of primary APS.<sup>[5]</sup> Literature search by Presotto *et al.* to identify all cases of primary adrenal failure as the first-recognized expression of primary APS

found 20 patients fulfilling the criteria. Abdominal pain was present in 14 patients, followed by fever (13 patients) and hypotension (12 patients). The main morphological findings by CT or MR were consistent with bilateral adrenal hemorrhage in 11 patients.<sup>[4]</sup>

In our case mechanism of PAI was not clear. There was no evidence of adrenal hemorrhage or infarction in CT adrenal or MRA/Duplex scan of adrenal veins. These features are at variance with previous cases described in the literature. Limitation of our case was we could not estimate adrenal antibody to confirm autoimmune etiology. Satta *et al.* described a 60-year-old man who developed clinical symptoms and signs of Addison's disease, which was subsequently confirmed biochemically; no cause was apparent.<sup>[6]</sup> Several months later the patient represented with a fit, followed by a large and extensive venous thrombosis in the right iliac vein. He had strongly positive antibodies to cardiolipin, strongly suggesting a diagnosis of primary APS.

## CONCLUSION

APS should be considered in PAI where the etiology is not obvious. High index of suspicion for PAI in APS and APLA positive patients are presenting with abdominal pain, nausea and asthenia. PAI may precede APS. We need to be wary about the high mortality rate, which ensues when this condition goes undiagnosed and untreated. Adrenal imaging shows hemorrhage in most cases, it may be rarely normal as PAI may be of autoimmune origin.

## REFERENCES

1. Uthman I, Salti I, Khamashta M. Endocrinologic manifestations of the antiphospholipid syndrome. *Lupus* 2006;15:485-9.
2. Saigal R, Kansal A, Mittal M, Singh Y, Ram H. Antiphospholipid antibody syndrome. *J Assoc Physicians India* 2010;58:176-84.
3. Rotman-Pikielny P, Shapiro MS, Ellis M, Betterle C, Levy Y. Evaluation of the hypothalamic-pituitary-adrenal axis in patients with antiphospholipid syndrome. *Int J Clin Pract* 2010;64:1398-401.
4. Espinosa G, Santos E, Cervera R, Piette JC, de la Red G, Gil V, et al. Adrenal involvement in the antiphospholipid syndrome: Clinical and immunologic characteristics of 86 patients. *Medicine (Baltimore)* 2003;82:106-18.
5. Presotto F, Fornasini F, Betterle C, Federspil G, Rossato M. Acute adrenal failure as the heralding symptom of primary antiphospholipid syndrome: Report of a case and review of the literature. *Eur J Endocrinol* 2005;153:507-14.
6. Satta MA, Corsello SM, Della Casa S, Rota CA, Pirozzi B, Colasanti S, et al. Adrenal insufficiency as the first clinical manifestation of the primary antiphospholipid antibody syndrome. *Clin Endocrinol (Oxf)* 2000;52:123-6.

**Cite this article as:** Sanyal D, Raychaudhuri M. Primary adrenal insufficiency in case of antiphospholipid syndrome. *Indian J Endocr Metab* 2013;17:S252-3.

**Source of Support:** Nil, **Conflict of Interest:** None declared.