Vomiting, Rifampicin And Collapse

Jatinder Mokta[1], Kiran Mokta[2], Asha Ranjan[3]
[1]Medicine/IGMC/Shimla/India, [2] Microbiology/IGMC /Shimla/India,
[3] Medicine/IGMC/Shimla/India

ABSTRACT

Adrenal insufficiency is an important life threatening manifestation of tuberculosis. Patient can have insidious onset of symptoms, or acute adrenal crisis depending upon the acute of adrenal deficit. Here we report a patient of tuberculosis who developed acute adrenal insufficiency after initiation of anti tubercular therapy.

Key words: addison's disease, rifampicin, tuberculosis

Corresponding author address: Ranjan Niwas , Near Tunnel, New Dhalli, Shimla, 171012

M: 9816510853 **E-Mail:** asharjn.85@gmail.com

Conflict of interest: No

Case report is Original: YES

Whether case report publishes any where? NO

INTRODUCTION

Tuberculosis (TB) continues to be the most common case of Addison's disease (AD) worldwide especially in developing country like India. Adrenal gland is the commonest endocrine organ to be involved and can be found in 6.5% patients with active tuberculosis. Bilateral involvement is more common. TB leads to inflammation, necrosis and slow destruction of gland which manifest clinically as generalised weakness, fatigue, weight loss, nausea, vomiting, postural dizziness ,hyperpigmentation, hyponatremia, hypokalemia, hypoglycemia. Diagnosis needs biochemical evidence of hypocortisolism (low serum cortisol, increased ACTH levels), radiological (Adrenal atrophy, calcification, fibrosis) and histopathalogical evidences.

CASE REPORT

In May, 2010, a -54 –year female developed fever and was treated with ciprofloxacin for presumed diagnosis of typhoid fever. Her fever subsided but developed anorexia, lethargy and hyper pigmentation all over the body. In July, 2011 she developed severe nausea and vomiting and was admitted at another hospital. Examination revealed blood pressure of 128/76 mmHg without postural fall, pulse rate of 82beats/minute and respiratory rate of 16 breath/minute and hyperpigmentation all over the body. Her lungs, heart and abdominal examination was normal. Except for raised ESR (45mm in 1st hr), low sodium (131meq/L) and raised alkaline phosphatase (two times the upper limit of normal), all other laboratory parameters including x-ray chest and thyroid function tests were normal. Upper oesophagogastroduodonoscopy was normal twice. Contrast enhanced computed tomography

(CECT) of chest and abdomen revealed calcified mediastinum, hilar, abdominal and retroperitoneal lymphadenopathy and fibrotic changes bilateral lung with enlarged bilateral adrenal glands with heterogeneous attenuation and peripheral ring enhancement with specks of calcification in left adrenal. Fine needle aspiration from adrenals was inconclusive. Bronchial washing showed caseating granuloma and Ziehl-Neelsen stain showed acid fast bacilli. She was treated with standard four anti-tubercular (RHZE) drugs and was discharged. She improves initially for two weeks when she develops anorexia, nausea, vomiting, postural giddiness, increased hyperpigmentation, and weight loss. These symptoms were progressive and on post- discharge day 30 she collapsed and was admitted in our emergency department in September, 2011. Her Examination revealed a severe emaciation with hyperpigmentation present all over the body, tongue and buccal mucosa. Her pulse was 96/minute and feeble and blood pressure was not recordable. Her serum sodium level was 129meq/L, potassium was 5.0meq/l and random plasma sugar level was 55 mg/dl. Her serum cortisol level was 2µg/dl and plasma ACTH level was 550 pg/dl, confirming primary adrenal insufficiency and was treated with injection hydrocortisone 100mg i.v 8 hourly. She was discharged on 30mg oral hydrocortisone when her blood pressure was 118/76mmHg along with anti-tubercular treatment (ATT). At 9 month ATT was stopped and her hydrocortisone dose was reduced to 15mg/day. At last followup in October, 2013 she was fine and her quality of life was good.

DISCUSSION

With the introduction of effective anti-tubercular chemotherapy over past several decades, the incidence of TB has declined and AD due to TB is considered a rare disease. However, TB probably continues to be the most common cause of Addison's disease, worldwide1. In about 93% patients of AD due to TB; there is a previous history of extra-adrenal tuberculosis which is usually evident but clinically silent at time of presentation2. Symptoms and signs of adrenal insufficiency do not appear until 90% of adrenal gland is destroyed. This slow presentation coupled with non-specificity of symptoms delayes the diagnosis of AD and is a major factor in poor prognosis. However, In India, there is indiscriminate use of fluoroquinolone antibiotics by physicians for undiagnosed pyrexia which suppresses the early symptoms of TB and therefore delays the diagnosis3 with the potential to increase the risk of poor clinical outcome4. Rifampicin induced increase in hepatic glucocorticoid metabolism by CYP3A4 results in cortisol inactivation5 and explains the deterioration and ultimately collapse in our patient after she was started on anti-tubercular drugs. Atypical presentation can confound the diagnosis. This is what happened when our patient presented with one month history of worsening nausea and vomiting. Nausea and vomiting are distressing but non-specific symptoms of underlying disease. In the presence of nausea and vomiting in tuberculosis patient, it is important to include AD as a part of differential diagnosis even if patient doesn't have overt-symptoms. Adrenal tuberculosis though rare but is an important disease that should be suspected with the aim of early diagnosis and aggressive treatment to reduce the preventable mortality.

CONCLUSION

Possibility of adrenal involvement should be suspected in every case of tuberculosis and investigated if clinical suggestion is present. Careful follow up of the patients on ATT to be done as the chances of rifampicin induced precipitation of acute adrenal insufficiency.

REFERENCES

1. Lovas K, Husebye ES. Addison's disease; Eponym. Lancet 2005; 365: 2058-61.
2. Nomura K, Demura H, Saruta T. Addison's disease in Japan: characteristics and changes revealed in a nationwide survey. Inten Med 1994; 33: 602-606.
3. Agrawal A. Tuberculosis should be diagnosed before using fluoroquinolone. BMJ 2003; 327: 164-165
4. Zahar JR, Azoulay E, Klement E, De Lassence A, lucet JK, Regnier B et al. Delayed treatment contributes to mortality in ICU patients with severe active pulmonary tuberculosis and acute respiratory failure. Intensive care med 2001; 27: 513-520.
5. Kolars JC, Schmiedlin-Ren P, Schuetz JD, Fang C , Watkins PB. Identification of rifampin-inducble P450 111 A4 (CYP3A4) in human small bowel enterocytes. J Clin Invest 1992 ; 90(5) : 1871-1878.