

A Rare Case of Vitamin B12 Deficiency with Ascites

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ABSTRACT

Vitamin B12 deficiency is widespread than assumed in population. At risk are older people, pregnant women, vegans, patients with renal and intestinal diseases. Vitamin B12 deficiency can present with various hematological, gastrointestinal and neurological manifestations. In the population, the prevalence of vitamin B12 deficiency in younger people is 5% to 7% which is less compared to elderly people. In developing countries, deficiency is much more common, starting in early life and persisting across the life span. Here, we present a 16-year-old female patient presenting with ascites since 2 months who was subsequently investigated and diagnosed to have nutritional megaloblastic anaemia secondary to vitamin B12 deficiency after exclusion of other infective, neoplastic, autoimmune and inflammatory diseases. In spite, patient was treated with antitubercular drugs but she did not respond. After supplementation of Vitamin B12, ascites responded well. Inadequate intake due to low consumption of animal source foods is the main cause of low serum vitamin B12 in younger adults and likely the main cause in poor population worldwide.

Keywords: Ascites, Vitamin B12, Young female

CASE REPORT

A 16-year-old female who was apparently normal 2 months back presented to GGH, Kurnool Andhra Pradesh, India with abdominal distension followed by pedal oedema and facial puffiness. On physical examination except for pallor, pedal oedema, abdominal distension [Table/Fig-1] nothing was significant. Investigations done revealed haemoglobin 7.6gm/dl with mean corpuscular volume 102 fl and red cell distribution width 26.5%, random blood sugar, renal function tests and liver function tests were within normal limits. Peripheral smear was done showing macrocytic anaemia with normal reticulocyte count. Her total protein was 7.4g/dl with albumin 3.9g/dl, globulin 3.5g/dl. Ultrasound abdomen was showing contracted right kidney with increased echogenicity, ascites, and

rest normal. CT scan abdomen showed similar findings [Table/Fig-2], Renal Doppler done showing absent flow in right kidney. Antinuclear antibody negative. Lipid profile, thyroid profile were normal. ESR, CRP were mildly elevated. Ascitic fluid analysis was done showing 100 cells/cumm with 95% lymphocytes and ADA 17.06u/l. Suspecting Tuberculous abdomen quantiferon TB test done which was negative. In spite of that patient was started on antituberculous therapy but the patient did not respond to treatment. As mean corpuscular volume was high serum B12 was done which was 120pg/ml. Antituberculous therapy was stopped and patient was started solely on injection Vitamin B12 without any diuretic and patient responded to treatment within 4 days with resorption of ascites gradually [Table/Fig-3]. Repeat serum B12 showed a value of 500 pg/ml.

DISCUSSION

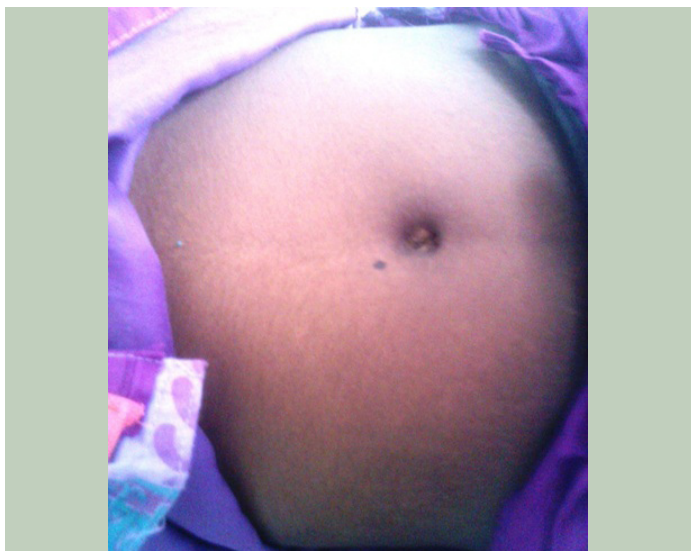
Ascites as a presenting feature of vitamin B12 deficiency is rare. Vitamin B12 deficiency can also present with rare manifestations apart from neurological, hematological, psychiatric, dermatological, oral features [1]. The prevalence of vitamin B12 deficiency in younger people is 5% to 7% [2,3]. Symptoms like pyrexia, gradual painless, loss of vision, complex partial seizures, imerslud-grasbeck syndrome [4], nocturnal dyspnea, jaundice, vertigo, short stature [5].



[Table/Fig-1]: Abdominal distension with striae



[Table/Fig-2]: CT scan



[Table/Fig-3]: After treatment

Six hundred ninety three people who have vitamin B12 deficiency were studied, among them only one has ascites [6]. The exact mechanism of ascites in vitamin B12 deficiency is not known. Young adults presenting with ascites of unknown origin and have risk factors and manifestations of B12 deficiency, megaloblastic anaemia can be considered. The applied treatment resulted in

improvement in both clinical and laboratory findings. Inadequate intake due to low consumption of animal source foods is the main cause of low serum vitamin B12 in younger adults and likely the main cause in poor population worldwide [3].

CONCLUSION

Megaloblastic anaemia is a silent epidemic with serious consequences. It has complex pathogenesis and can present with rare but treatable cause like ascites. After ruling out infections, neoplasms, liver disorders which are common causes of ascites, in young patients with risk factors and features of vitamin deficiencies, we should consider this possibility to be aetiological cause of ascites. After screening, measurement of serum vitamin B12 levels, a trial of treatment can cause a rapid improvement and avoid unnecessary anti-tubercular treatment and other investigations.

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