

## **Association Of Butterfly Rash & ANA Positivity With IBD.**

### **ABSTRACT:**

A 30 year old female presented with diarrhoea & gastrointestinal bleeding, along with photosensitive rash over malar region of face. Clinically she had features of essential nutrients deficiency, extra intestinal manifestations of inflammatory bowel disease & Malar rash typical of SLE. On evaluation she found to have hypothyroidism & features consistent with inflammatory bowel disease, with significantly high titres of antinuclear antibody (++++). According to 2012 SLICC SLE criteria she didn't have other features consistent with SLE. Inflammatory bowel disease was confirmed by Histopathological examination showing non-caseating granuloma with no evidence of vasculitis. Patient started on treatment with steroids & thyroxine supplementation. Patient responded well. No flare up of symptoms or appearance of new symptoms during her regular follow up.

**CONCLUSION:** We conclude that, clinical & laboratory features mimicking SLE like Butterfly rash, positive ANA can occur in IBD even in absence of SLE making them difficult to diagnose. But either of patients should be followed up regularly to look for development of other disease. Not only graves, association of hypothyroidism following hashimotos thyroiditis are also seen with IBD.

**Abbreviations:** ANA- antinuclear antibody, IBD- inflammatory bowel disease, CD- crohn's disease.

### **INTRODUCTION**

Inflammatory bowel disease (IBD) is a chronic recurrent disease characterized by intestinal mucosal inflammation and includes ulcerative colitis (UC) and Crohn's disease (CD). Almost one fourth of IBD patients suffer from extra-intestinal manifestations, including oligoarticular or polyarticular non-deforming peripheral arthritis, spondylitis or sacroilitis , episcleritis or uveitis, erythema nodosum , pyoderma gangrenosum , sclerosing cholangitis and thromboembolic events. On the other hand, systemic lupus erythematosus

(SLE) is an autoimmune disorder occurring predominantly in women during reproductive years. It is a multisystem disease with numerous clinical manifestations such as skin rashes, photosensitivity, oral ulcers, arthritis, serositis, renal, neurologic and hematologic disorders. The characteristic immunologic findings include the presence of antinuclear antibodies (ANAs), anti-dsDNA, anti-Smith and antiphospholipid antibodies.<sup>(1)</sup>

Systemic lupus erythematosus(SLE) and Crohn's disease(CD) are multisystem diseases characterised by wide spread tissue damage.<sup>(8)</sup> The diseases may have gastrointestinal(GI) manifestations, laboratory results, and radiographic findings that appear similar and consequently differentiating between GI involvement in CD and in SLE may be difficult. We present the case of CD presenting with clinical & laboratory features mimicking that of SLE.

## CASE REPORT

Informed written consent was taken from patient.

A 30 year old female presented with 3 months history of moderate grade fever, hyper pigmented skin lesions over face- which are photosensitive, with significant weight loss; For photosensitive rash she has consulted family doctor, there was no improvement with topical emollients & sunscreen. With 2 weeks history of diffuse colicky pain abdomen, associated with diarrhoea. Pain will be relieved following defecation. History of 2 episodes of passage of blood in stool in last 2 days, with no history of other bleeding manifestations. Urine output was good. Menstrual cycles were regular. Non smoker. Past & family history unremarkable.

she was poorly nourished with BMI-15.26kg/m<sup>2</sup>, anaemic, has got Malar rash (FIG .1A) typically looking like as seen in SLE, atrophic tongue(FIG.1B), Nucleolar pigmentation, Erythema nodosum like skin lesions over anteromedial aspect of leg were seen. Fundus examination of eye was- normal. She had tender abdomen with mild ascites.

In view of multisystem involvement, we proceeded with investigations for autoimmune diseases. ESR was raised- 45 mm at the end of 1<sup>st</sup> hour, Antinuclear antibody was strongly Positive (++++), Anti-dsDNA, Anti smith antibody, Smooth muscle antibody & Other components of ANA profile were negative. There was no evidence of haemolysis (Both Direct & Indirect Coombs

test were negative), C-reactive protein & RA factor were negative. Complete blood picture showed Microcytic Hypochromic anaemia, Iron profile was normal. Liver function tests were normal except for hypoproteinemia & hypoalbuminemia (5.4gm% & 2.5gm% respectively). Renal function tests, serum electrolytes, blood sugar level, Urine analysis – normal. Blood group- AB positive. Found to have hypothyroidism (Free T3 -2.53pg/ml, Free T4 -1.32ng/dl, TSH -13uIU/ml). HBsAg & HIV were Non-reactive. HCV RNA – Negative.

Ascitic fluid analysis showed exudative nature with 800 cells (80% lymphocytes, 20% mesothelial cells, no malignant cells) & Protein - 4.7gm/dl, sugar – 85mg/dl. It did not show growth of any organisms & also Negative for Acid fast bacilli staining. Adenosine deaminase level was significantly increased (51.5 IU/L).

Cardiac Evaluation was Normal.

With these features she was not fitting into definite SLE according to 2012 SLICC SLE criteria. So we proceeded with other non-invasive methods of investigations.

Radiological investigations revealed lesion at terminal ileum & ileocecal junction. Ultrasonography of abdomen & pelvis showed Thickened small bowel wall with minimal ascites. Contrast enhanced computed tomography of abdomen & pelvis showed Irregular mural thickening of terminal ileum & ileocecal junction- maximum thickness of wall being 10mm extending over length of 3cm(FIG.2A), with pre & para aortic lymph node enlargement - largest measuring – 1.5\*0.6cm(FIG.2B). Then we suspected inflammatory pathology involving the small bowel, so proceeded with Colonoscopy.

Colonoscopy Showed irregular ulcerative lesion at terminal ileum (FIG.2C).

Biopsy was taken from same site & subjected for Histopathological examination.

Histopathological Examination showed- NONCASEATING GRANULOMA WITH NO EVIDENCE OF VASCULITIS consistent with Inflammatory Bowel disease – i.e Crohn's Disease(FIG.2D).

So we made the diagnosis of crohn's Disease. She treated with for initial 5 days Inj. Methylprednisolone 1gm/day, followed by oral Prednisolone 1mg/kg/day & tapering started over 6 weeks. She responded well. We with-held treatment with anti-TNF alpha inhibitors because of risk of development of drug induced lupus. She is on regular follow up. No flare ups or appearance of new symptoms from last 3yrs

& no new laboratory features suggestive for other autoimmune disease development.

We have counselled the patient regarding – possibility of development of SLE symptoms at later stage, available treatment options & its side effects. Side effects of steroids explained & advised for regular follow up.

## DISCUSSION:

The peak age of onset of UC & CD is between 15- 30yrs. A second peak occurs between 60 – 80yrs.<sup>(7)</sup> CD can affect any part of the GI tract from mouth to the anus. In 75% of the patients with small intestine disease, terminal ileum is involved in 90%.<sup>(7)</sup> In CD involving ileocecal region, severe inflammation of the ileocecal region may lead to localised thinning of wall with microperforation.- responsible for exudative ascitic fluid<sup>(7)</sup> ) In our case terminal ileum & ileocecal junction was involved, with exudative ascites. Erythema nodosum(EN) occurs in upto 15% of CD and 10% of UC patients<sup>(8)</sup>

The rate of thyroid disorders is reported to be increased in patients with IBD than normal population. Mustafa yakut et al study showed Thyroid gland disease in 14/146(9.5%) IBD patients. Hashimoto thyroiditis has been found in 4(2.7%) IBD patients, in that one patient was Hypothyroid.<sup>(6)</sup> Our patient had Hypothyroidism.

Table 1- shows Comparison of reported patients with SLE complicating Crohn disease.

In most cases, SLE was diagnosed prior to CD, and all the patients had anti-dsDNA positive, & there was tendency towards anaemia & thrombocytopenia. In all those patients SLE was diagnosed based on clinical features & ANA profile study. No tissue diagnoses was used. Few patients had malar rash at the time of diagnosis of SLE. In the later stage during the follow-up they developed gastrointestinal manifestations & diagnosis of CD was confirmed by histopathological examination.

One case report by Nishida Y<sup>5</sup> et al diagnosed with CD 4 years prior to SLE, & that patient didn't have malar rash & positive ANA titre at the time of diagnosis of CD. That patient was put on treatment with sulfasalazine for CD & during follow up developed SLE.

Nitzan O<sup>8</sup> et al study showed most of cases of SLE were associated with Ulcerative colitis. They found patients with both diseases tended to have less photosensitivity, less arthritis, and less serositis than patients with SLE alone.

Our patient diagnosis of CD was based on histopathological examination. She has strongly positive ANA (++++ ) & anti-dsDNA was negative, Malar rash typical of that of SLE at the time of presentation, but According to 2012 SLICC SLE criteria she didn't have other features for SLE.

## CONCLUSION:

The clinical & laboratory features mimicking SLE can occur in CD even in absence of SLE, making them difficult to diagnose correctly. It is important to consider the possibility of CD in patients who have clinical & laboratory features of SLE like Butterfly rash, positive ANA with Gastrointestinal manifestations. Either of patients should be followed up regularly to look for development of other disease. Not only Graves, association of Hypothyroidism following Hashimotos thyroiditis also seen with IBD.

## REFERENCES:

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Fig 1 : A. MALAR RASH  
B. ATROPIC TONGUE

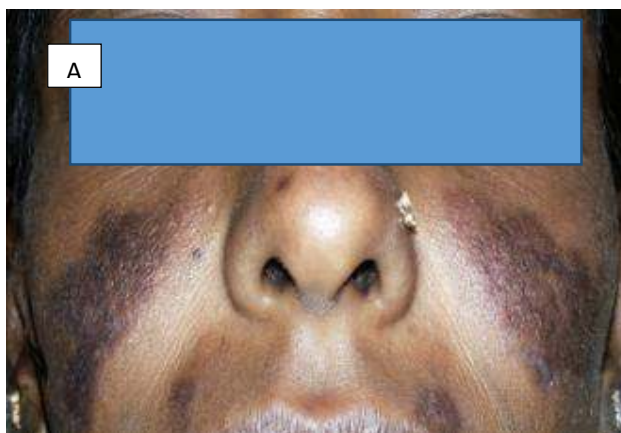
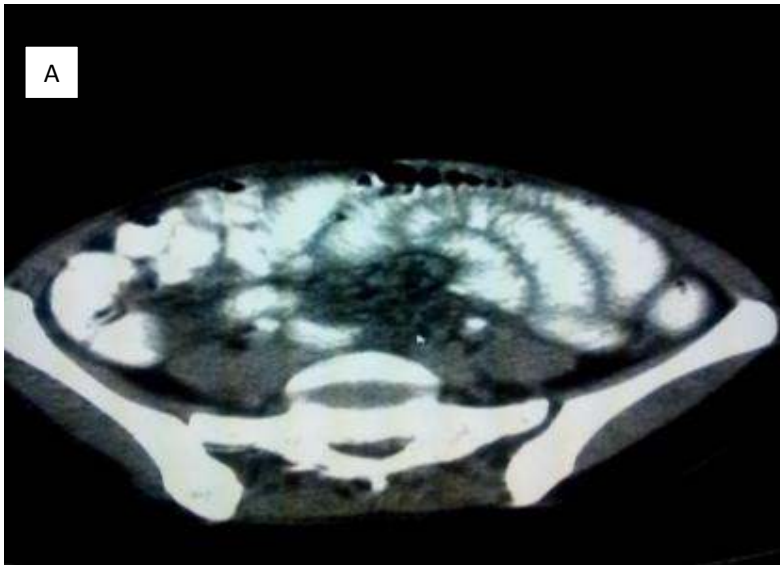


FIG 2: A. CECT ABDOMEN SHOWING IRREGULAR MURAL THICKENING OF TERMINAL ILEUM & ILEOCECAL JUNCTION.  
B. CECT ABDOMEN SHOWING ENLARGED PRE & PARA AORTIC LYMPH NODE ENLARGEMENT.  
C. COLONOSCOPY SHOWING ULCERATIVE LESIONS AT TERMINAL ILEUM.  
D. HISTOPATHOLOGICAL EXAMINATION OF BIOPSY TAKEN FROM ULCERATIVE LESION AT TERMINAL ILEUM SHOWED- NONCASEATING GRANULOMA WITH NO EVIDENCE OF VASCULITIS. (FEATURES SUGGESTIVE OF CROHN'S DISEASE).



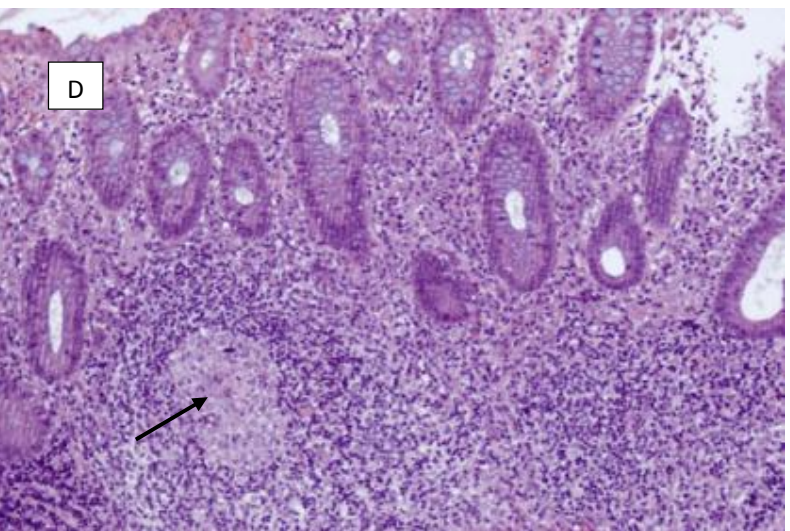


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206     Table 1: Comparison of reported patients with SLE complicating Crohn’s disease

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| Patient | Age/sex | SLE disease duration | Immunological findings      | Symptoms                                                         | ESR (mm/hr) | Colonoscopy Findings                                         | Result of Biopsy               | Treatment            | Reference |
|---------|---------|----------------------|-----------------------------|------------------------------------------------------------------|-------------|--------------------------------------------------------------|--------------------------------|----------------------|-----------|
| 1       | 28M     | 7yrs                 | ANA 1280x<br>Anti-DNA 160x  | Diarrhea<br>Pyoderma gangrenosum                                 | 89          | Deep linear ulceration,<br>Psuedopolyps,<br>Skip lesions     | Acute and Chronic inflammation | mPSL 40mg/d.d iv     | (2)       |
| 2       | 15F     | 3yrs                 | ANA 1280x<br>Anti-DsDNA 50x | Abdominal pain<br>Diarrhea<br>Blood stained stool                | 68          | Multiple ulcers with linear ulcer, Skip lesion, Psuedopolyps | CD                             | Salazosulphapyridine | (3)       |
| 3       | 55F     | 12yrs                | ANA 80x<br>Anti-DsDNA 80x   | Intermittent hematochezia,<br>Tenesmus and loose bowel movements | 35          | Multiple ulcers with linear ulcer, diffuse aphthous ulcers   | CD                             | Prednisone           | (4)       |

|   |     |                                                         |                                                   |                                                            |     |                                          |    |                                                          |                  |
|---|-----|---------------------------------------------------------|---------------------------------------------------|------------------------------------------------------------|-----|------------------------------------------|----|----------------------------------------------------------|------------------|
| 4 | 25F | She developed SLE 4yrs after developing Crohn's disease | ANA 160x<br>Anti-DsDNA 800IU/ml<br>pANCA positive | Watery diarrhea,<br>Lower Abdominal pain, Perianal Abscess | N/A | Longitudinal ulcers and mucosal erosions | CD | Salazosulphapyridine 3gm/d                               | (5)              |
| 5 | 30F | No history of SLE                                       | Positive result of ANA<br>Anti-dsDNA-Negative     | Diarrhea<br>Abdominal pain<br>Malar rash                   | 45  | Ulcers at terminal ileum                 | CD | mPSL 1gm/d-5 day<br>Followed by oral Prednisone 1mg/kg/d | The present case |

208 mPSL – Methyl prednisolone

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