Coexistence of Takayasu’s Arteritis with Ulcerative Colitis

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Abstract
The association of ulcerative colitis with Takayasu’s arteritis is rarely reported. The occurrence of the two together is possibly related to a common pathophysiology involving alteration in immune mechanisms. Takayasu’s arteritis is more prevalent in Japan and South East Asia whereas Ulcerative Colitis is more in Western countries. The coexistence of these two diseases is uncommon and hence this report.

INTRODUCTION
Both ulcerative colitis and Takayasu’s arteritis are of uncertain etiology. The association of these two diseases has evoked speculation on a common pathophysiological background as alterations in immune mechanisms have been implicated for both the diseases. We describe herein a case of young girl who was diagnosed to have both these diseases simultaneously.

CASE
A 18 years girl was admitted in September 2000 with a 3 month history of low grade fever, poor appetite and weight loss. There was history of diarrhea for 2 months. Stools were 5-6/day, small in amount, with lot of mucus and no blood. She had history of tenesmus. In addition, she had complaints of intermittent pain suggestive of arm claudication and paraesthesias in both upper limbs. Also, she had history of episodes of vertigo, dizziness and severe diffuse headache, with off & on blurring of vision.

Her physical examination revealed mild pallor with no clubbing, pedal edema or lymphadenopathy. Both radial and brachial pulses were not palpable in both the upper extremities; however all the lower limb pulses were full and equal. Blood pressure could not be recorded on both the upper limbs while it was 120/60 mm Hg on both sides in the lower limbs. Both carotid arteries were palpable and systolic bruit was audible over right carotid artery. Systemic examination was normal. No bruit was heard over the abdomen. The optic fundi were normal.

Laboratory investigations were as follows:
- Hemoglobin 9.9 g/dl(12-18), MCV 7.4 fl(73-93), total leucocyte count of 8.2 x 10⁹/l(4-11), erythrocyte sedimentation rate 80 mm(0-20) in the first hour and platelets 280 x 10⁹/l(150-450), Blood glucose, serum creatinine, electrolytes, liver function tests and lipid profile were normal. Autoimmune profile (rheumatoid factor, antinuclear factor) was also negative. Repeated stool examination was negative for any pathogen. Sigmoidoscopy showed marked hyperemia, edema and friability. Rectal and colonic biopsies showed ulceration of surface epithelium, mixed inflammatory cell infiltration, goblet cell depletion, distortion of crypts and crypt abscesses, changes suggestive of ulcerative colitis.

Barium meal follow through was normal. Aortogram revealed normal size aorta with no significant aortic regurgitation. Two major vessels were seen arising from aortic arch instead of three. No vessel could be traced to left upper limb. Selective angiography of right brachiocephalic artery revealed 40% proximal disease with 90% lesion in right subclavian artery. Right vertebral artery was large and 40% occluded at origin. Right common carotid artery was diseased 30-40% at origin. Left common carotid artery was diseased about 90% in middle with left subclavian artery being probably blocked 100% as no vessel could be seen arising from aorta. Bilateral renal arteries were single, large and normal.

She was put on sulfasalazine and oral steroids. Diarrhea stopped within 10 days, fever was normal and there was some improvement in arm claudication. After 2 months of steroids use, her ESR fell to 42 mm (0-20) first hour. It was decided to continue steroids for next 3-4 months and observe for cerebral symptoms and plan vascular intervention in case symptoms persist.

DISCUSSION
Both Takayasu’s arteritis (TA) and ulcerative colitis
are chronic inflammatory diseases of unknown etiology. Takayasu’s arteritis has been reported mainly from Japan, Southeast Asia and Africa. Although cases have been reported worldwide, it is distinctly rare in Western countries. Ulcerative colitis, however is more commonly seen in white population of North America and Europe. Hence, one would expect these two diseases to rarely occur concomitantly. The co-occurrence of these diseases is interesting and has been reported in literature with maximum cases being from Japan where the incidence of Takayasu’s arteritis is greatest.Only two cases of coexistence of ulcerative colitis and Takayasu’s arteritis has been reported from our country and hence this report.

Endoscopic picture and histological changes in our patients are consistent with the diagnosis of ulcerative colitis. Also, the clinical features and angiographic appearance of aortogram are consistent with the diagnosis of Takayasu’s arteritis. Though aortography has been the gold standard for diagnosing TA, the usefulness of CT scan and MRI has been recently indicated for determining the wall thickness of the involved arteries of aorta. Moreover, the improvement of inflammation and clinical symptoms can be correlated with reduction of wall thickness of the involved vessels on CECT.

Although the association of Takayasu’s arteritis and ulcerative colitis prompts speculation on a common pathophysiology, a higher frequency of HLABw52 and DR2 in patients with these two diseases suggests the role of genetic factors also.

Anti-colon antibodies and anti-aortic antibodies have been demonstrated in ulcerative colitis and Takayasu’s arteritis respectively though significance of these antibodies remains uncertain. Circulating immune complexes have also been demonstrated in both these disease. A number of workers have directed their attention to the role of immune complexes associated with Takayasu’s arteritis in inducing chronic colitis in susceptible individuals and similarly immune complexes causing Takayasu’s arteritis as an extraintestinal manifestation in patients with ulcerative colitis. The possibility of an immunological defect demonstrating an augmented antibody response to a variety of stimuli from both colon and aorta has been suggested. However the relationship between these two diseases remains obscure and needs further elucidation.

REFERENCES