Is the Ghost of Tropical Sprue Re-surfacing after its Obituary?

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Tropical sprue (TS) is a cause of chronic diarrhea and malabsorption syndrome and was commonly described from tropical countries including India. Patients with chronic small bowel diarrhea with demonstration of malabsorption of two unrelated substances, abnormal small intestinal histology, exclusion of other known causes of malabsorption and persistent response to treatment with tetracycline and folate were diagnosed as TS. The disease was described commonly in the sporadic form and even as epidemics from India in the past. It was also reported in epidemic form among soldiers and prisoners of war in the Indo-Burma region during the Second World War, in American military personnel serving in the Philippines, and in Bangladesh. This condition was also reported sporadically from temperate countries where it was named ‘temperate sprue’. In the recent years, there has been declined in publication on TS. Hence, some physicians started believing and even propagating that TS does not occur anymore! Some skeptics feel that in the era of evidence-based medicine, lack of published evidence can be used as an evidence of negating occurrence of that phenomenon.

Does reduction in number of publications on TS reflect disappearance of the disease? There can be several reasons for reduction in the number of publication on any disease. These include, (a) true reduction in occurrence of the disease such as small pox, (b) reduction in interest among researchers on the disease, (c) resurgence of interest among researchers on other issues that are technology-driven such as advanced endoscopic techniques and industry-sponsored products, (d) lack of costly treatment options that drive industry to promote research, and (e) lack of interest of editors of the journals with high impact factor on diseases of poor nations. Therefore, reduction on publication on any disease does not necessarily mean disappearance of the disease. Though, with improvement in socioeconomic status, better hygiene and increased use of antibiotics and probiotics, reduction in frequency of sporadic TS is quite expected, the evidence in favor of this hypothesis are scanty. In contrast, quite a few studies reported in recent time suggested that TS is still the commonest cause of malabsorption syndrome (MAS) among adults in several parts of India. About a decade ago, we reported that of 99 consecutive patients with MAS, 39 (39%) had TS. The diagnosis of TS was made using very rigorous criteria. Therefore, a possible overestimation of TS was quite unlikely. In contrast, a possible under-diagnosis was evidenced by the fact that 15 patients received one or more courses of anti-tubercular treatment from the physicians in the community. The present study echoes similar observation from a center from southern India. 29% of 124 patients during a 9-year period had a diagnosis of TS. Interestingly, 72% patients in the present study were from eastern India. This study therefore, reflects the profile in eastern India as well. The finding of the present study is somewhat similar to another recent study from our center, in which 37% of 276 patients with MAS seen during a 10-year period had TS. Younger age (<35 years), longer diarrhea duration, Punjabi race and villous atrophy were more often associated with diagnosis of celiac disease on multivariate analysis. To place the findings of these studies in perspective, one may expect celiac disease to be commoner than TS from studies from northern India, particularly from Punjab province. A recent study from a large teaching hospital in northern India found celiac disease to be the commonest cause of sporadic MAS in adults (62%) followed by TS (22%). Therefore, all these evidences suggest that the belief that TS is extinct entity in the current years like small pox is completely wrong according to evidence-based medicine.

Skeptics may still suggest that epidemic form of TS has not been reported recently. Hence, frequency of epidemic TS might have reduced recently. However, one needs to critically read the study on epidemic TS from southern Indian villages. This study reported that about one-tenth of villagers from southern India continued to have persistent liquidity and frequency of stool for one year. This was named as ‘epidemic tropical sprue’ or ‘post-infective tropical malabsorption’. This condition was also reported from other Asian countries such as among soldiers and prisoners of war in the Indo-Burma region during the Second World War, in American military personnel serving in the Philippines, and in Bangladesh. An analogous condition, which is associated with continuing liquidity and frequency of stool following an attack of acute gastroenteritis, named as post-infectious irritable bowel syndrome (PI-IBS) is being reported frequently from Western countries and occasionally from a few Asian countries namely South Korea and China recently. There is considerable overlap between PI-IBS and TS. TS is often accompanied by colonization and overgrowth of bacteria in the small bowel, which has been recently reported in association with IBS. PI-IBS is usually diarrhea-predominant type, which is similar to the clinical presentation of TS. Diarrhea-predominant IBS is more often associated with SIBO than other type of IBS. Abnormal small intestinal permeability has been reported in patients with TS as well as PI-IBS. In most studies on PI-IBS, post-infective malabsorption syndrome has not been carefully excluded using tests for mucosal malabsorption like D-xylene or fecal fat estimation. These evidences may suggest that a disorder somewhat similar to that described from southern Indian villages is being described from different parts of the world with a different name. Unfortunately, though gastrointestinal infection and infestation is very common in India, PI-IBS has not been reported from this country. These observations might suggest that reduction in publication on TS in recent years from India might not be entirely due to true reduction in frequency of epidemic or sporadic form of TS from India but might be partly related to shift in the interest of gastroenterologists from an old enigmatic disease particularly affecting rural people of lower socioeconomic classes to more rewarding high throughput endoscopic procedures and biologic

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therapies.

Such myths about prevalence of diseases are not uncommon in India. Crohn and Celiac diseases were erroneously thought to be Western diseases in the past! Similarly, TS was erroneously believed to have disappeared at present. The authors of the present study needs to be congratulated for their efforts to collect data on MAS from a center from where most publications on TS came in the past and for their brevity in saying that TS is still the leader. The present study clearly reiterates that TS is still the major cause of MAS as it was in the past.

The major task before us now is not a debate on whether TS still occur in India or not? The researchers in the country working on luminal gastrointestinal disease have to explore to know what is TS? I believe that it is a condition resulting from small intestinal bacterial colonization and overgrowth in absence of anatomical causes. Hence, it is important to understand why small intestinal bacterial overgrowth occurs in a subset of subjects causing malabsorption? Also, we have to realize that the entity named as PI-IBS, which is being described today from the West and a few Asian countries other than India might be similar to what was described from India half a century ago and named as epidemic TS! The link between the epidemic TS of the past and PI-IBS of the present needs attention of researchers.

References

15. Ghoshal UC, Park HJ, Gwee KA. Bugs and Irritable Bowel Syndrome: The good, the bad and the ugly. J Gastroenterol Hepatol 2010;25:244-51
20. Dunlop SP, Hebben J, Campbell E et al. Abnormal intestinal permeability in subgroups of diarrhea-predominant irritable bowel syndromes. Am J Gastroenterol 2006;101:1288–94.
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