EDITORIAL

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Helicobacter pylori Eradication, a Gordian Knot for Idiopathic Thrombocytopenic Purpura?

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See "The Effects of *Helicobacter pylori* Eradication Therapy for Chronic Idiopathic Thrombocytopenic Purpura" by Jae Jin Hwang, et al. on page 356-361, Vol. 10. No. 3, 2016

Guidelines for the Diagnosis and Treatment of *Helicobacter pylori* Infection in Korea was revised in 2013 and idiopathic thrombocytopenic purpura (ITP) was enlisted as a target for *H. pylori* eradication therapy with high level of evidence and strong recommendation grade.[1] Clinical studies have steadily reported the rise of platelet count after *H. pylori* eradication roughly in a half of the patients with ITP. Regarding the pathogenesis of ITP by *H. pylori*, several immunological and molecular biological mechanisms are proposed and accepted highly reasonable. This is reflected in recently revised Korean guidelines as consistently as other guidelines from other countries including Japan, Europe, and America.[2-4] However, the national health insurance system does not yet recognize ITP as a subject of insurance benefits for *H. pylori* eradication in Korea. This might be due to insufficiency of Korean data about the effect and possible risk of *H. pylori* eradication on ITP.

The article "The effects of *H. pylori* eradication therapy for chronic idiopathic thrombocytopenic purpura" by Hwang *et al*.[5] is a retrospective study performed in Seongnam, Korea. To our best knowledge, this is fourth report about effect of *H. pylori* eradication on ITP in Korea. A total of 102 ITP patients were reviewed. It is the second largest of the world's reports.[6] The prevalence of *H. pylori* infection was 41.1% (42/102). It seems compatible with the prevalence of general population in Korea. These results are also similar to those of studies from other countries. Therefore, with studies up to today, the degree of contribution of *H. pylori* to the development of ITP is not estimated from the prevalence of *H. pylori* infection in ITP. Standard triple regimen was given for 7 days and the successful eradication was achieved in 92.9% (39/42). All patients with successful eradication achieved significant increase in platelet count. Mean platelet counts of baseline and at 6 months after eradication were 43.2±29.1 to 155.3±68.7×10^3/μL for *H. pylori*-positive and -eradicated group. That change was significantly higher (p=0.041) than those of the *H. pylori*-positive and -non-eradicated group and *H. pylori*-negative group (42.5±28.1 to 79.8±59.7×10^3/μL and 43.1±28.9 to 81.2±62.2×10^3/μL).

The result of this study is consistent with three previous Korean studies. Two retrospective single centered studies were reported in 2008 and 2010.[7,8] The prevalence of *H. pylori* were 61.7% and 92%. Eradication was successful in all patients. Overall response rate ranges from 41.7% to 68%. In 2015, a multicenter, open label, prospective phase II study was conducted by hematology researchers.[9] A total of 26 patients with ITP and *H. pylori* infection were enrolled and the overall response rate reached to 69.2% during the study period.

ITP is a quite infrequent disease in clinical practice. Health insurance review and assessment service of Korea reported that the number of patients who were coded as ITP, D69.3, was 8,000 in 2015.[10] Mostly ITP is primary and secondary ITP are related to viral infection, drugs and autoimmune disease. *H. pylori* is one of the causal agents. Due to the rarity of ITP and the academic interest discrepancy between the gastroenterology and hematology, there has been no large scale randomized controlled trials about the effect of *H. pylori* eradication on ITP. Most of ITP patients are treated by hematologist and the conventional treatment for ITP involves the use of immunosuppressive agents, such as corticosteroids, intravenous immunoglobulin, anti-D immunoglobulin, rituximab, thrombopoietin agonists and salvage splenectomy. All of the treatments are expensive

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and have a significant risk and adverse effects. On the contrary, *H. pylori* eradication costs less than $100 and most of the possible adverse effects are tolerable. Just a simple regimen consists of antibiotics and proton pump inhibitors can be a Gordian knot for roughly a half of ITP patients with *H. pylori* infection. Of course, more precise and detailed investigation should be continued. Geographic variation of *H. pylori* stains and prevalence may affect the characteristics of ITP. The eradication rates reported in studies ranges over 90% to 100%. It is definitely higher than usual situation. The high eradication rates of most retrospective study imply recall bias or selection bias. Prospective controlled trials should be carried out. Patient stratification trial according to the severity of ITP should be performed. Though conditions are not perfectly sufficient, the benefit of *H. pylori* eradication on ITP definitely outweighs the cost and possible risk. It is reasonable time to enlist ITP as a benefit criterion for *H. pylori* eradication in our national health insurance system.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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