Study supports new, highly effective treatment for blood disorder

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Patients suffering from a blood disorder that prevents proper clotting have the option of a new medication that may dramatically improve their health. There are estimated to be between 50,000 and 100,000 individuals in the U.S. diagnosed with chronic immune thrombocytopenic purpura (ITP), an autoimmune disease that dramatically reduces the number of platelets in their blood -- causing bruises, nosebleeds and, rarely, life-threatening brain hemorrhages.

Promacta® (eltrombopag) was granted accelerated approval by the U.S. Food and Drug Administration in November 2008 for the treatment of thrombocytopenia in patients with chronic immune (idiopathic) thrombocytopenic purpura who have had an insufficient response to corticosteroids, immunoglobulins or splenectomy. Promising results of an international, multicenter Phase III clinical trial, led by NewYork-Presbyterian/Weill Cornell researchers, were the basis of this approval and are published in a recent issue of the *Lancet*.

"Findings from the new study are very encouraging, and I believe this treatment is an effective option for all patients suffering from chronic ITP," says Dr. James Bussel, principal investigator of the study; attending pediatrician and director of the Program for Platelet Disorders at NewYork-Presbyterian Hospital/Weill Cornell Medical Center; and professor of pediatrics, and professor of pediatrics in medicine at Weill Cornell Medical College.

The study follows a previous Phase II study published late 2007 in the

New England Journal of Medicine. This trial showed that eltrombopag was effective in raising platelet counts and lowering bleeding in adult subjects with chronic ITP. The Phase II study's results also determined the most promising dose of 50mg, which was given to all of the experimental subjects in the Phase III study.

The Phase III study tested 114 subjects, who were all 18 years and older, with at least six months of history with ITP and with low-platelet counts of 30,000 per microliter (µL) of blood (normal range is 150,000 to 400,000). The subjects were split into two groups: two-thirds were in an experimental group that received the standard of care with the addition of 50mg of eltrombopag, and a control group received the standard of care and a placebo pill.

By the end of the 43-day testing period, 59 percent of subjects receiving Promacta® achieved platelet counts at or over 50,000 per µL of blood, compared with 16 percent of subjects in the placebo group. A safe-level platelet count is between 30,000 and 50,000 per µL of blood. Promacta® subjects were almost 10 times more likely to reach the target platelet counts as the placebo group.

Currently, patients are treated with corticosteroids, such as prednisone, which may have side effects such as fatigue, mood swings and weight gain. Other common treatments include IV anti-D and IV gammaglobulin, and also rituximab. More drastic measures, like surgical removal of the spleen (splenectomy) are sometimes taken in order to prevent the body from destroying platelet cells within the organ. However, this may put a patient at risk for blood stream infections because of the spleen's role as a filtering organ of the immune system.

Promacta® works by stimulating the production of cells in bone marrow that form platelet cells in the blood. Past studies have shown that the drug boosts platelet counts in both ITP and normal subjects.

Ongoing and future studies will evaluate the safety and efficacy of eltrombopag as a long-term treatment for ITP, and its efficacy and safety in populations like the 4 million Americans with hepatitis-C-related thrombocytopenia or patients receiving myelosuppressive chemotherapy.

Collaborators on the study include: Drew Provan, from Barts and The London School of Medicine, London, U.K.; Tahir Shamsi, from Bismillah Taqee Institute of Health Sciences and Blood Disease Center, Karachi, Pakistan; Gregory Cheng, from Chinese University of Hong Kong, Shatin, N.T., Hong Kong; Bethan Psaila, from the department of haematology, Hammersmith Hospital, Imperial College School of Medicine, London, U.K.; Lidia Kovaleva, from the Hematology Research Center, Moscow, Russia; Abdulgabar Salama, from Charité-Universitätsmedizin, Berlin, Germany; Julian M. Jenkins, Debasish Roychowdhury, Bhabita Mayer, Nicole Stone and Michael Arning from GlaxoSmithKline.

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Immune thrombocytopenic purpura (ITP) is an autoimmune disease in which anti-platelet antibodies accelerate destruction of platelets. ITP patients commonly have platelet counts of less than 30,000 per cubic millimeter, compared to normal platelet counts of between 150,000 and 440,000. ITP affects women of childbearing age at two to three times the rate of men and has an increased incidence in the elderly.

Source: New York- Presbyterian Hospital