Long-term adverse events, efficacy, and tolerability of recombinant human hyaluronidase-facilitated subcutaneous infusion of immunoglobulin in patients aged < 18 years with primary immunodeficiency diseases

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Background: Recombinant human hyaluronidase (rHuPH20)-facilitated subcutaneous infusion of immunoglobulin (fSCIG; HyQvia) is a new Ig treatment combining the advantages of intravenously and conventional subcutaneously-administered immunoglobulin (Ig) with infusion at rates, volumes and frequencies similar to intravenous Ig (IVIG), and favorable systemic tolerability.

Objectives: We report the efficacy, adverse events, and tolerability of fSCIG in patients aged < 18 years treated in the pivotal phase 3 study and its extension.

Methods: Patients aged < 18 years with PID received IVIG for 3 months, then fSCIG every 3 or 4 weeks for ~18 months, followed by up to 21 months.

Results: Of the 26 enrolled patients (aged 4-17 years), 24 received fSCIG for up to 3.3 years at the established dose (49 patient-years). No serious fSCIG-related adverse events were reported. The rate of validated acute serious bacterial infections was 0.08/patient-year (upper limit of 99 % CI = 0.20) and the rate of all infections with fSCIG was 3.02/patient-year. The rate of related local adverse events was 0.10/infusion; results were similar when stratified by age group or maximum infusion volume/site. Of 706 fSCIG infusions, 97 % did not require administration changes. Three patients developed binding anti-rHuPH20 antibody at titers ≥ 1:160 on ≥ 1 occasion with no associated adverse reactions; titers declined, despite continued treatment. No patient developed neutralizing anti-rHuPH20 antibodies.
Conclusions: In patients aged < 18 years who were treated with fSCIG, infection rates were low, and infusions were well-tolerated, despite infusion volumes and rates like IVIG. The results in pediatric patients were like those in adults.

Keywords: Recombinant human hyaluronidase-facilitated subcutaneous infusion of immunoglobulin; Primary immunodeficiency diseases