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We present a local convergence analysis for an improved Jarratt-type methods of order at least five to approximate a solution of a nonlinear equation in a Banach space setting. The convergence ball and error estimates are given using hypotheses up to the first Fréchet derivative in contrast to earlier studies using hypotheses up to the third Fréchet derivative. Numerical examples are also provided in this study, where the older hypotheses are not satisfied to solve equations but the new hypotheses are satisfied. (Received August 19, 2014)