We review several ways in which the quasi-heredity of the Brauer algebra can be used to study (orthosymplectic) supergroups. We will show that Brauer algebras are in Ringel duality with categories of supergroup representations. This yields in particular new and algebraic proofs for fundamental theorems of invariant theory. We also show that one standard module of the Brauer algebra allows to describe tensor ideals in the Brauer category and that one can recover entire representation categories of supergroups from these ideals. (Received January 28, 2019)