There has been a growing interest in therapeutic modalities based on tumor-specific immune reactions for glioblastoma (GBM). Autologous formalin-fixed tumor vaccine (AFTV) for GBM is an emerging innovative treatment approach, which aims at stimulating patient’s own immune system. We retrospectively analyzed clinical results of vaccine treatment patients. 63 cases of newly diagnosed GBM cases with concomitant AFTV treatment on the 1st line therapy were analyzed comparing with 100 cases of control group without AFTV during 2000～2013. Newly diagnosed GBM with KPS > 60, 16-75yo, more than 80% removal were enrolled for the analysis. Three courses of AFTV was administered after initial treatment of chemo- and radiation. Overall survival (OS) and progression free survival (PFS) were analyzed. mOS of AFTV group and control group were 31.3 months and 20.6 months (p = 0.01). mPFS were 14.0 months and 9.8 months (p = 0.037). OS of delayed-type hypersensitivity (DTH) positive group was 31.6 months comparing with 15.4 months in negative group (p = 0.063). multivariate analysis showed significant association in KPS (HR 1.84). The results of this study demonstrate the feasibility of AFTV as concomitant treatment of 1st line therapy. We are ongoing multicenter double-blind prospective randomized phase II/III trial.