

Conclusion In this study, Ag-AV-SF hydrogel combined the comprehensive properties of AgNPs and AV, developed using a 'green' (environmentally friendly) photocrosslinking approach. In the histological analysis, the Ag-AV-SF hydrogel induced a mild immune reaction and enhanced neovascularization. In comparison with both single-modifier hydrogels and the wound dressings currently on sale, the Ag-AV-SF hydrogel fabricated herein inhibited immune reactions and promoted the healing process. Additionally, it upregulated the expression of TGF- β 3 and downregulated the expression of TGF- β 1, thus reducing the formation of scar tissue. It is believed that the Ag-AV-SF hydrogel will function as a promising wound dressing to address future clinical wound problems. More interestingly, it induced the macrophage transformation from the M1 phenotype to M2 at the early stage of healing.

Conflict of Interest statement

There is no conflict of interest