INTRODUCTION

Adipose tissue has many types of cells other than adipocytes, which can be extracted as a cell pellet called stromal vascular fraction (SVF) through collagenase digestion of aspirated adipose tissue. SVF contains adipose-derived stem/stromal cells (ASCs), vascular endothelial cells, pericytes, adipose-resident macrophages, lymphocytes, and so on. ASCs are regarded as a potent tool for cell base therapies because they have biological functions such as multidirection differentiation, growth factor secretion, and immunomodulation, and can be obtained readily in a large amount through liposuction.

Condensation of grafting adipose tissue is a key to achieve better volumizing effects (better volume retention) by fat grafting. It is particularly important when there is a limitation of injection volume (e.g., breast) owing to the limited skin envelop, because an injection of excessive volume leads to severe ischemia and fat necrosis. Condensation of grafting fat can be achieved by means of removal of unnecessary components, such as water, oil, dead cells, and blood cells. Because aspirated fat tissue is relatively poor in stem cells (ASCs), condensation of ASCs in the graft is another issue for seeking better volumizing effects.

Recently, regenerative effects of fat grafting are appreciated by many clinicians. Stem cell–depleted tissues such as irradiated tissue, chronically inflammatory tissue, and ischemic fibrous tissue are improved by fat grafting in quality, vascularity, and healing and expanding capacity. It has been reported frequently that hypertrophic scarring and...