The Effect of Conditioned Media on Bone Marrow Mesenchymal Stem Cells Differentiation
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Introduction
Identified in bone marrow mesenchymal stem cells (MSC) may differentiate into many tissues types, including skeletal myocytes. One of the major pathways to induce MSC differentiation is via secreted soluble factors such as cytokines, interleukins or growth factors.

Materials and methods
Conditioned media were prepared from skeletal muscle cell line (CRL 1458), cardiomyocyte cell line (H9C2), primary skeletal muscle culture and by addition of 5’azacytidine and TGF-β1 to DMEM medium. Grade of MSC differentiation was assessed by morphological analysis and cell expression of characteristic markers by immunocytochemistry, immunofluorescence and flow cytometry.

Results
Conditioned media significantly induced differentiation of MSC. After 16 days of incubation cell morphology has been changed. Expression of α-smooth muscle actin, desmin, myogenin and sarcomeric actin were induced by conditioned media. These alteration strongly indicate onset of the differentiation process to the myogenic lineage.

Discussion and Conclusions
Our study shows that conditioned media which were used provide a convenient source of inductive signals to initiate differentiation of MSC towards myogenic lineage.