[2] Weng CJ, Yen GC. Chemopreventive effects of dietary phytochemicals against cancer invasion and metastasis: phenolic acids, monophenol, polyphenol, and their derivatives. Cancer Treat Rev. 2012, 38(1): 76-87.
[3] Sheth S, Jajoo S, Kaur T, Mukherjea D, Sheehan K, Rybak LP, Ramkumar V. Resveratrol reduces prostate cancer growth and metastasis by inhibiting the Akt/MicroRNA-21 pathway. PLoS One. 2012, 7(12): e51655.

임 상

P-90

Canine Adipose Tissue-derived Mesenchymal Stem Cells Alleviate Severe Acute Pancreatitis by Regulating T cells in Rats

Woo-Jin Song[1], Hyun-Wook Kim[2], Qiang Li[1], Sei-Myoung Han[1], Kee-Ok Jun[1], Sang-Chul Park[1], Min-Ok Ryu[1], Kun-Ho Kim[1], Bo-Yeon Lee[1], Kyeong Kweon[1], Hyung-Kyu Chae[1], Hwa-Young Youn[*1]

[1]Department of Veterinary Internal Medicine, College of Veterinary Medicine, Seoul National University, Seoul 08826, Republic of Korea, [2]Haemaru Referral Animal Hospital, Seongnam 13590, Republic of Korea.

Introduction: Severe acute pancreatitis (SAP) is associated with systemic complications and high mortality rate in dogs. Recently, mesenchymal stem cells (MSCs) have been investigated for their therapeutic potential in several inflammation models. The present study investigated the effects of canine adipose tissue-derived (cAT)MSCs in a rat model of SAP.

Materials and Methods: A rat model of SAP was induced by retrograde injection of 3% sodium taurocholate solution into the pancreatic duct. cATMSCs labeled with dioctadecyl-3,3,3'-tetramethylindo-carbocyanine perchlorate (1×10^7 cells/kg) were systemically administered and pancreatic tissue was collected 3 days later. Histopathological, quantitative real-time PCR, and immunocytochemical analyses were performed.

Results: Greater numbers of infused cATMSCs were detected in the pancreas of SAP as compared to sham-operated rats. cATMSC infusion reduced pancreatic edema, inflammatory cell infiltration, and acinar cell necrosis, and decreased pancreatic expression of the pro-inflammatory cytokines tumor necrosis factor-α, interleukin (IL)-1β, -6, -12, -17, and -23 and interferon-γ, while stimulating expression of the anti-inflammatory cytokines IL-4 and IL-10 in SAP rats. Moreover, cATMSCs decreased the number of cluster of differentiation 3-positive T cells and increased that of Forkhead box P3-positive T cells in the injured pancreas

Conclusions: These results indicate that transplantation of cATMSCs might be developed as a potential therapy strategy of SAP in dogs.

P-91

Anti-inflammatory effects of Oct4/Sox2 overexpressing adiposetissue-derived mesenchymal stem cells

Qiang Li[1], Sei-Myoung Han[1], Woo-Jin Song[1], Sang-Chul Park[1], Min-Ok Ryu[1], Kee-Ok Jeon[1], Bo-Yeon Lee[1], Kyeong Kweon[1], Hyung-Kyu Chae[1], Hyeon-Jin Kim[1], Su-Yeon Kim[1], Hye-Mi Yang[1], Hwa-Young Youn[*1]

[1]Department of Veterinary Internal Medicine, College of Veterinary Medicine, Seoul National University, Gwanak-ro, Gwanak-gu, Seoul, Korea

Introduction: Recent works have been shown that *Oct4* and *Sox2* as main self-renewal factor enhance proliferation and pluripotency of adipose tissue-derived mesenchymal stem cells (ATMSCs). However, anti-inflammatory effects of ATMSCs overexpressing Oct4 and Sox2 (Oct4/Sox2- ATMSCs) have not been determined. The aim of the present study was to evaluate the anti-inflammatory effects of Oct4/Sox2-ATMSCs.

Materials and Methods: In vitro, green-fluorescent protein (GFP) (control) and Oct4/Sox2-ATMSCs were cultured for 48 h and the supernatant (conditioned media) was collected to treat lipopolysaccharide(LPS)-induced Raw 264.7 cells. Subsequently, the levels of inflammatory cytokines expression were determined using real- time PCR analysis. In LPS induced systemic inflammatory mice models, GFP- and Oct4/Sox2-ATMSCs ($1x10^7$cells/kg) were injected intraperitoneally and monitored by survival rate and sick score (diarrhea,eye condition, activity and condition of their fur).

Results: Oct4/Sox2-ATMSCs group further decreased expression of pro-inflammatory cytokines (IL-1β, IL-6. and TNF-α) from Raw 264.7 cells than GFP-ATMSCs group. Comparison to GFP- with Oct4/Sox2-ATMSCs injected mice, the total sick score was reduced to 1.53 fold, while the survival rate was increased by 11.1%.

Conclusions: Although further studies of mechanisms are needed, these results suggest Oct4/Sox2-ATMSCs may be developed as a novel therapy strategy of inflammatory diseases.

P-92

Temozolomide reduced the side population in human malignant mesothelioma cell lines

Na-Yon Kim[1,2], Myung-Chul Kim[1,2], Hong-Seok Lee[1,2], Yu-Ri Seo[1], Yongbaek Kim[*1,3]

[1]Laboratory of Clinical Pathology, [2]BK21 PLUS Program for Creative Veterinary Science Research, and [3]Research Institute for Veterinary Science, College of Veterinary Medicine, Seoul National University, Seoul, The Republic of Korea 151-742

Introduction: Malignant mesothelioma (MM) is a nearly incurable tumor with a median survival time of 6 to 9 months. To develop a measure to overcome therapeutic resistance of MM, the effects of temozolomide were investigated. The therapeutic