VASCULAR DISEASE, VASCULITIS

ANTI-TWEAK MONOCLONAL ANTIBODIES REDUCE VASCULAR DAMAGE AND LEUCOCYTE INFILTRATION IN A MOUSE MODEL OF CUTANEOUS REVERSE PASSIVE ARTHUS REACTION

Tao Chen [1] - Zai-pei Guo [2] - Li-xin Fu [3] - Na Cao [4]

Chengdu Second People's Hospital, Department Of Dermatovenereology,, Chengdu, China [1] - West China Hospital Of Sichuan University, Department Of Dermatovenereology, Cheng, China [2] - Chengdu Second People's Hospital, Department Of Dermatovenereology,, Chengdu, China [3] - Chengdu Second People's Hospital, Department Of Dermatovenereology,, Cheng, China [4]

Background: Tumour necrosis factor (TNF)-like weak inducer of apoptosis (TWEAK) is a pro-inflammatory cytokine, which is closely associated with the patho- genesis of various types of cutaneous vasculitis (CV).

Aim: To investigate the therapeutic effects of an anti-TWEAK monoclonal antibody (mAb) in a mouse model of cutaneous reverse passive Arthus (RPA) reaction.

Methods: Cutaneous RPA reaction was induced in BALB/c mice by intradermal injection of anti-ovalbumin IgG into the left ear
followed immediately by intravenous injection of chicken ovalbumin. After treatment, haemorrhagic lesions in the mouse skin were scored semiquantitatively. The amount of extravasated fluorescein isothio- cyanate (FITC)-labelled bovine serum albumin (BSA) in the ears was detected spectrophotometrically. Expression of myeloperoxidase (MPO) was detected by immunohistochemical staining, while mRNA expression of TNF-a and interleukin (IL)-6 in lesional skin was detected by real-time quantitative (q)PCR.

Results: Our results indicated that anti-TWEAK mAb significantly attenuated the clinical and histopathological changes in immune complex (IC)-induced mice, and also reduced the semiquantitative haemorrhage score, FITC-labelled BSA extravasa- tion and MPO activity. Real-time qPCR showed that anti-TWEAK mAb significantly inhibited mRNA expression of TNF-a and IL-6 in lesional skin from IC-induced mice.

Conclusion: These data suggest that anti-TWEAK mAb can block vascular damage and leucocyte infiltration in IC-induced mice. TWEAK might be a candidate immunotherapeutic

medicine for suppression of IC-induced CV.