

the last 24 h of culture. IL-12 and tumour necrosis factor α (TNF α) cytokine secretion was measured by ELISA. The T cell stimulatory capacity of ACM-conditioned macrophages was measured in a 4-day mixed lymphocyte reaction. T cell proliferation was measured by tritium-thymidine incorporation.

Results Treatment of macrophages with ACM resulted in a strong reduction in IL-12 secretion upon LPS stimulation, whereas TNF α remained unaffected. In addition, ACM-conditioned macrophages had an increased T cell stimulatory capacity. These effects were observed with both IFP- and ScAT-derived ACM. Interestingly, the inhibition of IL-12 release correlated to the Body Mass Index (BMI) of the IFP adipocyte donor. Separation of protein and lipid fractions of ACM indicated that the IL-12 inhibition was mediated by the lipid fraction. Current research investigates the lipid(s) responsible for the observed effects.

Conclusion Macrophage function is modulated by soluble factors secreted by adipocytes. These factors appear to reside in the lipid fraction of the ACM. Interestingly, the inhibition of IL-12 release correlates with BMI of the adipocytes donor, indicating that obesity-related changes in macrophage phenotype could be mediated by adipocytes.

5 MACROPHAGES ARE MODULATED BY FACTORS SECRETED BY ADIPOCYTES

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10.1136/annrheumdis-2011-201238.5

Objectives Obesity has been associated with development and progression of osteoarthritis. Although the biological mechanisms underlying this association are unknown, several studies have indicated that adipose tissue secretes a large variety of soluble factors that can influence whole-body metabolism. The authors have recently shown that the infrapatellar fat pad (IFP), an adipose tissue organ in the knee joint, is a source of inflammatory mediators that could influence joint pathology. Moreover, the authors identified obesity-related changes in cytokine release by IFP. Both adipocytes and immune cells present in IFP could constitute the source of these inflammatory mediators. Among IFP-infiltrating immune cells, macrophages are the most abundant and previous studies have indicated that cytokine release by adipose tissue macrophages depends on adiposity. However, the mechanism underlying this association is unknown. In the present study, the authors explored the possibility that adipocytes modulate the phenotype of macrophages, thereby contributing to obesity-induced changes in adipose tissue.

Materials and methods Adipocyte conditioned media (ACM) were generated by culturing adipocytes from IFP (OA patients) or subcutaneous adipose tissue (ScAT, healthy donors) for 24 h. Protein and lipid fractions were isolated using TBME and resuspended in medium. Macrophages were obtained by differentiating purified CD14 $^{+}$ monocytes of healthy individuals in the presence of GM-CSF for 7 days. ACM or different fractions were added for the last 48 h, while LPS was added during