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Poster Presentation

The Role of C- Reactive Protein in Obesity and Neuropathic Diseases

Samane Arminfar*, Zeinab Sadat Hosseini

Neuroscience Research center, Faculty of Medicine, Mashhad Branch, Islamic Azad University, Mashhad, Iran

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Abstract

Acute phase C-reactive protein (CRP), raised in obesity and inflammation, is a main binding protein for leptin. It is assumed that CRP contributes to leptin confrontation by preventing leptin from crossing the blood-brain barrier (BBB). Here we defined how CRP cooperates with the BBB and whether it deters leptin from attainment CNS targets. CRP was constant in blood, but did not permeate the BBB in trace quantities. Though, it increased paracellular permeability at an upper dose. CRP did not permeate hCMEC/D3 cells nor change zona occludin-1 or cyclooxygenase-2 expression. Investigations showed that a middle dose of CRP had no outcome on leptin transport across the BBB after co-therapy. Therefore, acute interactions among CRP and leptin at the BBB level were insignificant and did not elucidate the leptin resistance seen in obesity. The interactions of CRP and the BBB increased paracellular permeability at a high dose that permits its entry into the CNS and aids to induce reactive gliosis and damage CNS activity.

Keywords: Obesity, C- Reactive Protein, Neuroinflammation Diseases

Corresponding Author: Samane Arminfar

E-mail: *miss.samane.arminfar@gmail.com*

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