Identification of potential drug targets for traumatic brain injury: an initial study

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Around 2% of the population suffers from cognitive and functional deficits associated with traumatic brain injury (TBI). However, there is still no treatment available in order to reduce these deficits. The main goal of the present study was to evaluate the degree of brain damage after controlled cortical impact, and get a first insight on the expression of some potential drug targets after injury. To this end, adult male Wistar rats were distributed in 3 groups: (i) traumatized animals (TBI, submitted to craniotomy followed by cortical impact) and as control groups, (ii) animals with only craniotomy (SHAM) or (iii) without any treatment (NAÏVE). Three days after injury, the animals were anaesthetized and sacrificed by perfusion-fixation, and the brains were removed for cryosection. Lesion size, hippocampal CA3 cell count and infiltrated white blood cells were evaluated by cresyl violet staining. In addition, the mRNA expression of different potential targets was evaluated by *in situ* hybridization. The data obtained will be discussed in relation to the dynamic and long-lasting changes that take place after TBI, together with the possibilities of designing effective treatments that could attenuate this response and ameliorate the functional deficits associated with it.
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Poster session: Neuroscience 1 or 2