UNIVERSITÀ DEGLI STUDI DI TORINO

I@UNITO – Visiting Scientists

Scientific area	Scientific responsible	Host Department	Type of activity	Start of mobility	Language
AREA 16	Dr. Anna Mazzeo	Surgical Sciences	Clinical research	January 2017	English
Type of fellowship	Senior (equal or more than 40 years old) 1 month				
Title of the research project	Endocrine dysfunction and pituitary autoimmunity during the acute phase of acute brain injury: A transforming research in neurocritical illness.				
Description of the research project	Critical illness triggers in the affected patient an adaptive metabolic response, involving both neuroendocrine and inflammatory pathways with the aim to cope the stressful situation which is challenging systemic homeostasis. The endocrine/inflammatory response may differ according to the complexity of the pathophysiology of the underlying disease and the heterogeneity of the affected patients and may affect outcome. Recents studies have shown that after traumatic brain injury (TBI) and rupture of blood brain barrier, brain proteins may enter bloodstream and trigger an immune response. Pituitary gland is at particular risk because of its anatomic location. The presence of anti-pituitary (APA) antibodies has been found months after acute injury, possibly as a marker of neuroinflammation, although with uncertain prognostic significance. We hypothesize that in the early phase after acute brain injury pituitary autoimmunity may develop and may be involved in the pathogenesis of brain injury-induced hypopituitarism. Aim of this study is to investigate the occurrence of neuroendocrine dysfunction and pituitary autoimmunity in the early phase of ICU admission in patients with acute brain injury and to evaluate if hormonal dysfunction and pituitary atoimmunity can predict outcome. Multicenter prospective observational study. Duration: three years. Inclusion criteria: patients with acute brain injury admitted to ICU within 24 hours after injury. Exclusion criteria: age <18 years; moribund; pregnancy; history of endocrine or autoimmune disorders. Blood and urine samples will be collected at day 1, 2, 3, and 7 after injury to assess anterior and posterior pituitary function and presence and titer of APA. APA will be detected by indirect immunofluorescence (IFI) performed on cryostat section of monkey anterior and posterior pituitary gland, using an optimized IFI method. Outcome will be evaluated at 6 months with the use of Glasgow Outcome Scale extended (GOSe).				
Profile Description	*Medical Degree. Academic practice in Universitary Hospital.* *High volume of clinical activity in neurotrauma center.* *Research interest in neurotrauma field.* *Previous participation to international clinical trials on traumatic brain injury*				
Research	*The main objective of the project is to investigate the occurrence of pituitary damage and endocrine dysfunction in patients with severe TBI and to evaluate the occurrence of pituitary autoimmunity in*				

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objectives	*the early phase after injury and its effect on neurological outcome.* *This international research project aims also at establishing research collaboration with International Institute of excellence in medical research.*
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