



E006 - Sex specific permanent effect of early postnatal genistein administration on nitrenergic and vasopressinergic systems

[View Session Detail to add to Schedule](#)

E006 - Sex specific permanent effect of early postnatal genistein administration on nitrenergic and vasopressinergic systems

Giovanna Ponti ¹

¹University of Turin, Department of Veterinary Sciences, Grugliasco To, Italy

Giovanna Ponti ²

²Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Alicia Rodriguez-Gomez ³

³Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Alicia Rodriguez-Gomez ⁴

⁴University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Alice Farinetti ⁵

⁵Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Alice Farinetti ⁶

⁶University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Marilena Marraudino ⁷

⁷Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Marilena Marraudino ⁸

⁸University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Federica Filice ⁹

⁹University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Federica Filice ¹⁰

¹⁰University of Fribourg, Department of Medicine, Fribourg, Switzerland

Benedetta Foglio ¹¹

¹¹Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Benedetta Foglio ¹²

¹²University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Giacomo Sciacca ¹³

¹³Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Giacomo Sciacca ¹⁴

¹⁴University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

GianCarlo Panzica ¹⁵

¹⁵Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

GianCarlo Panzica ¹⁶

¹⁶University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

Stefano Gotti ¹⁷

¹⁷Neuroscience Institute Cavalieri Ottolenghi NICO, Laboratory of Neuroendocrinology, Orbassano To, Italy

Stefano Gotti ¹⁸

¹⁸University of Turin, Department of Neuroscience 'Rita Levi-Montalcini', Turin, Italy

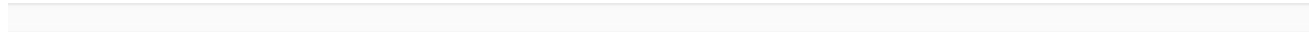
Soy foods contain phytoestrogens as genistein (GEN, Jefferson et al., *Reproduction*, 143: 247–60, 2012) which may interfere with endocrine system and, during developmental critical periods, lead to permanent alterations of estrogen sensitive hypothalamic circuits (Frank et al., *Front. Neuroendocrinol.*, 35: 550–557, 2014). GEN exposure through mothers resulted in an anxiolytic effect and a concurrent decrease of neural NO synthase (nNOS)+ cells in amygdala of male offspring (Rodriguez-Gomez, et al., *Physiol. Behav.*, 133:

107–14, 2014), consistently with the role of nNOS system in anxiety regulation and its sensitivity to gonadal hormones (Panzica et al., *Neuroscience*, 138: 987-995, 2006).

We analyzed anxiety levels and related neuronal circuits in mice directly fed with either vehicle, Estradiol (E2) or GEN from birth (P0) to P8. Behavioral tests were conducted at P60. Coronal serial sections were collected from P90 mice and processed for immunohistochemistry against nNOS and vasopressin (AVP).

The GEN treatment had a dichotomic effect on sexes: anxiolytic on females while anxiogenic on males. Concurrently nNOS and AVP+ cell density in many hypothalamic nuclei was affected. Interestingly only few of those effects were mimicked by E2 treatment suggesting that GEN may act through different intracellular pathways.

These results raise concerns about the possible long-term effects of the widespread use of soy-based food and especially of preweaning supplements in livestock, as pigs which are frequently affected by hypo-fertility problems. Similar concerns could involve the use of soy-based formulas for babies.



Home	Schedule	Programme	Login Settings	More ..
----------------------	--------------------------	---------------------------	--------------------------------	-------------------------