XXVII Congresso Nazionale della Società Italiana di Endocrinologia
Sorrento, 4 - 7 giugno 1997

Nome di chi presenterà la comunicazione

TRAVAGLINI
PIETRO

Qualifica

PROF. ASSOCIATO
DI ENDOCRINOLOGIA

Indirizzo

POLICLINICO - DISCIPLINE
MEDICHE IRCCS - MILANO
VIA FRANCESCO SFORZA 35 (ISTITUTO SCIENZE
ENDOCRINE - PAD GRANDI)

firma

Inviare un originale in Inglese, un originale in Italiano e 10 fotocopie della versione Inglese, di cui 9 anonime entro il 28 febbraio 1997 alla:

Segreteria Organizzativa
FA.SI. Congress
Viale Gorizia, 24
00198 Roma
Tel. +39/6/8417001
+39/6/8540296
Fax +39/6/8414495

SETTORE PERTINENTE

- Ipotalamo-Ipofisi ☒
- Tiroide ☐
- Surrene ☐
- Andrologia ☐
- Endocrinologia Ginecologica ☐
- Diabete ☐
- Metabolismo ☐
- Biologia Cellulare e Molecolare ☐
- Endocrinologia Oncologica ☐
- Autoimmunità ☐
- Altro ☐

EVALUATION OF RELATIONSHIP BETWEEN OLFACTORY SYSTEM AND GONADAL FUNCTION IN PATIENTS WITH HYPOGONADOTROPHIC HYPOGONADISM AND CONGENITAL ANOSMIA

P. Travaglini, A. Pizzocaro, M. Bonomi, G.Broich*, F. Nicosia* and M. Farabola**(Istituto di *Scienze Endocrine , Clinica ORL*, Servizio di Neuroradiologia**, Ospedale Maggiore IRCCS, University of Milan*

Recently, the hypothalamic-pituitary-gonadal axis and the olfactory systems have been shown to be linked by a protein of the family of adhesion molecules, which controls the migration of Gn-RH neurons and olfactory axons from olfactory placode into the brain, across the lamina cribra. In Kallmann syndrome (KS) mutations of the gene encoding this protein induce hypo-anosmia and hypothalamic hypogonadism (HH). In idiopathic hypothalamic hypogonadism (IHH) a normal sense of smell is present and in congenital anosmia (CAN) a normal sexual function is reported. In order to better evaluate the relationship between olfactory apparatus and hypothalamic-pituitary axis we studied 25 patients (pts) (nine were affected with KS, 10 had IHH and 6 had CAN)by MRI-HR (thin, T1-weighted and coronal section) of olfactory and hypothalamic-pituitary regions and by olfactory tests (standard sniff-test and dilution test, with both pure olfactory substances and odorants stimulating the trigeminal nerve terminations in the nose). Serum LH and FSH levels were evaluated in basal conditions, after 3 consecutive Gn-RH boli (100 mcg iv every 2 hrs) and after buserelin injection (0.5 mg sc). In all pts MRI showed a normal hypotalamic-pituitary region . In KS MRI showed aplasia of olfactory bulbs and tracts in 7 pts and hypoplasia in 2 pts on the left side of the brain ; on the right side aplasia was present in 6 and hypoplasia in 3 pts; olfactory sulci were absent in 1 pt, hypoplasic in 6 on the left and in 4 on the right side; normal sulci were observed in 1 pt on the left and in three pts on the right. In all pts with KS hypo-anosmia was present ; however discrepancy between olfactory tests and MRI was noticed, as full anosmia associated with normal sulci and hypoplasic bulbs or hyposmia associated with lack of olfactory bulbs and sulci. Also in pts with CAN similar discrepancies were present. The 10 pts with IHH showed normal olfactory apparatus at the MRI and normal olfactory threshold for pure olfactory stimuli but reduced threshold for trigeminal stimulating odorants in 5 pts. Gonadotropin (Gn) basal levels (mean ± SE) were normal in all pts with CAN (LH=4.8±0.4; FSH= 5.9±1.1) and very lovered in pts with KS (LH=0.2±0.03; FSH=0.4±0.05) and HHI (LH=0.7±0.2; FSH= 1.1± 0.3). In KS basal Gn levels were singnificantly lower (P<0.05) than those found in IHH, suggesting a more rilevant Gn-RH degfect in KS. In CAN the Gn net increase after Gn-RH was normal (LH=20.5±3.7; FSH=9.3±1.7), while it was strongly reduced in KS (LH=2.2±0.4; FSH=3.2±O.6) and in IHH (LH= 3.7±0.6; FSH=3.7±0.4, not signficant vs KS).After injection the LH and FSH increase in KS was similar to that observed after 3 consecutive Gn-RH boli injection, whereas in IHH only the LH increase (7.6 ± 1.5 miU/ml) was significantly higher (P<0.01) then that induced by GnRH boli and buserelin in KS.

In conclusion 1) MRI-HR and olfactory threshold are a valuable tools in evaluating olfactory system in HH; nevertheless discrepancies among clinical picture, MR imaging and olfactory threshold are still present; improved MR resolution's power, appropiate genetic_ studies and histological evaluation of olfactory epithelium will make possible better clarify phenotype's variability of HH and CAN; 2) tha administration of consecutive Gn-RH boli and of buserelin induce a similar Gn increase;3) the normal gonadal function in pts with CAN and the normal olfactory threshold in pts with HHI suggrest the possibility of a correct migration into the brain of both GnRH and olfactory neurons, indipendently each from others.

Comunicazione in tema

Le comunicazioni vanno dattiloscritte entro il rettangolo soprasegnato con macchina da scrivere elettrica a nastro di plastica senza lasciare alcun margine, con spaziatura uno, corpo 12. Titolo ed autori dovranno essere indicati secondo il seguente esempio:

esempio:

STUDY OF PROLACTIN RECEPTORS

B. Neri, C. Rossi, N. Verdi

Istituto di Patologia Generale dell'Università di X _____

Il testo dovrà contenere: scopi della ricerca, metodi impiegati e conclusioni. Frasi generiche dovranno essere evitate.

Eventuali citazioni bibliografiche dovranno essere inserite tra parentesi nel testo.

Le comunicazioni saranno selezionate a cura della Commissione Scientifica.