MEDICINE ELSEWHERE

Prepared by

Safiye Çavdar, Ph.D.

Department of Anatomy, School of Medicine
Marmara University, Istanbul, Turkey.

Haines DE, Pietrichs E, Mihailoff GA, McDonald EF. The cerebello - hypothalamic Axis: Basic circuit and clinical observations. Int Rev Neurobiol 1997;41:83-197.

The role of cerebellum in the regulation of somatic activity is well established. Experimental studies in recent years on a variety of mammals have revealed direct and indirect reciprocal connections between the hypothalamus and the cerebellum. The hypothalamic projections to the cerebellum arise primarily from cells in the lateral posterior and dorsal hypothalamic area. Cerebellar projections to the hypothalamus arise from neurons of all cerebellar nuclei and pass through the superior cerebellar peduncle and enter the hypothalamus.

The interconnection between cerebellum and hypothalamus suggested that cerebellum may contribute as a general modulator and coordinator of a wide variety of central nervous system responses via these projections.

This study by Haines et al. in 1997 was the first evidence of cerebellar influence on the visceromotor system presented in two patients. One of the patients had a small defect in the medial cerebellar nucleus and the other with large area of damage primarily at the globose and embiliform nuclei. Both patients exhibited an abnormal visceromotor response. This study is important in the manner that it is the only study performed in human patients which showed the active involvement of cerebellum in the regulation of visceromotor functions.

Prepared by

Serpil Bilsel, Ph.D.

Department of Biochemistry, School of Medicine,
Marmara University, Istanbul, Turkey.

Stern K, McClintock MK. Regulation of ovulation by human pheromones. Nature 1998;392:176-179.

Pheromones are chemical signals that are released by an individual into the environment and which affect the physiology or behavior of other members of the same species. Pheromones secreted by animals are volatile substances and unconcious odors which usually regulate basic functions as mating, the timing of estrous cycle, and aggressiveness. The existance of human pheromones was first suggested by the demonstration that women living together can develop synchronized menstrual cycles under specific conditions. In rats, a similar process of ovarian synchrony occurs and is mediated by the exchange of two different pheromones.

Stern and McClintock investigated whether humans produce compounds that regulate a specific neuroendocrin mechanism in other people without being consciously detected.

As in other species, human pheromones might be produced by apocrine glands, eccrine glands, epithelial cells. The researchers collected compounds from the axillae of donor women because they contain all these potential sources. Donor women, during the follicular or ovulatory phases of their menstrual cycle, wore cotton pads in their axillae for at least eight hours. Then these axillary compounds were applied daily to recipients by wiping a pad above their upper lip during two menstrual cycles. The effect of these

compounds on the menstrual cycle length and its phases was evaluated by LH, progesterone glucuronide levels together with data on vaginal secretions, menses, basal body temperature of the recipients.

They found that odourless compounds from the armpits of women in the late follicular phase of their menstrual cycles accelarated the preovulatory surge of luteinizing hormone of recipient women and shortened their menstrual cyles (-1.7±0.9 days, n=20). Axillary compounds from the same donors which were collected later in the menstrual cycle (at ovulation) had the opposite effect: they delayed the LH surge of the recipient and lengthened their menstrual cycles (+1.4±0.5 days, n=20).

The findings that axillary compounds change cycle length indicates that the compounds contain pheromones. It also suggests two functionally different ovarian-depedent pheromones in humans. These results demonstrate that human have the potential to communicate pheromonally.

Prepared by

M. Burak Aksu M.D., Ph.D.,

Department of Microbiology and Clinical Microbiology, School of Medicine, Marmara University, Istanbul, Turkey.

Borret C, Regli A, Bosi C, Pages JM, Bollet C. Imipenem resistance of Enterobacter aerogenes mediated by outer membrane permeability. J Clin Microbiol 2000;38:1048-1052.

Enterobacter aerogenes, a gram negative bacterium, is the third leading cause of respiratory tract nosocomial infections. In this report, they describe an antibiotic resistance in prolonged antibiotic therapy due to lack of porin. Imipenem has been used to treat multi drug resistant organisms involved in nosocomial infections. Previously imipenem resistance was shown in Enterobacter cloacae which is mediated by a chromosomal β lactamase.

In this study 29 strains isolated from 4 patients. These strains had an extended spectrum β lactamase coding gene (TEM-24). In the beginning 13 strains were susceptible to gentamicin and resistant to imipenem and cefepim. After clinical treatment with imipenem all of the patients showed E. aerogenes strains with this resistance pattern.

For epidemiological analysis PCR amplifications were made for all strains. These strains belonged to the prevalent epidemiological type in France.

To detect the reason of antimicrobial resistance, SDS poliacrylamid gel electrophoresis and immunodectection of porins performed. Porins checked on E. aerogenes strains showed a multi drug resistant phenotype. Polyclonal antibodies directed against denaturated E. coli porins have been found to be able to recognize A. aerogenes porins at 34 kDA position.

Among 29 strains 12 showed a negative response, reflecting a porin deficient phenotype. 12 other strains showed a positive reaction. 5 strains susceptible to imipenem were not studied for presence of porin.

The authors mention that, the emergence of E. aerogenes strains with a decreased susceptibility to imipenem is of interest. It seems evident that E. aerogenes is able to perfectly adapt itself to antibiotic pressure and in this bacterium, incidence of this resistance mechanisms will increase with the use of imipenem.

Burns RA, Roy JS, Woods C, Padliye AA, Warnoch DW. Report of the first human case of lobomycosis in USA. J Clin Microbiol 2000;38:1283-1286.

Lobomycosis is characterized by slowly developing, variaby sized dermal nodules after a trauma. Cutaneous nodules manifest as smooth, verrucose or ulcerated surfaces. Onset of disease is generally insidious. Increase in the size or the number of lesions is a slow process.

The etiologic agent of Lobomycosis has yet to be isolated and grown in vitro so nothing is known about its basic characteristics and growth. Diagnosis is based on presence of thick walled yeast like cells in exudate or tissue sections.

Organism multiples by budding. Surgical excision of localized lesions is optimal therapy. Human disease is endemic in tropical zone of New World and has been reported in Brazil, Bolivia, Ecuador Mexico, Panama. This report is describing the first human case of Lobomycosis in USA. The patient gave a history of travel to Venezuela.

In the case: a 42 years old made patient, presented to a general surgeon. Patient requested removal of a skin lesion on his right chest wall. Seven years ago the lesion had started as a small pustule. At that time, patient pierced the pustule with a needle. After this, lesion developed into a small nodule and increased in size. There was no pain or discomfort but some itching.

Two years prior the appearance of the pustule patient had traveled to Venezuela and he walked under Angel Falls in Canaima. Therefore he was exposed to extremely high water pressures of the falls.

On physical-examination the patient was found to have a raised 3.5-2 cm red-purple nodul with smooth surface and located on eighth rib. After an uncomplicated excision samples was sent to pathology. In histological examination numerous globose or subglobose, lemon shaped cells were seen. Cells showed thick, refractile walls ad reproduced by budding. There were many chains of cells showing narrow tubuler connections characteristic of L. laboi.

The authors mention that: The course of Lobomycosis appears to be saprobic in aquatic environments, which probably plays a significant part in its lifecycle. In this case, patient was exposed to high water pressures. The surgical excision led to uncomplicated cure of infection.

MEETINGS

25 - 29 June 2000 Barcelona, Spain

XVIII. CONGRESS OF EUROPEAN RHINOLOGIC SOCIETY

XIX. INTERNATIONAL SYMPOSIUM ON INFECTION AND ALLERGY OF THE NOSE

Website: http//www.rhinology2000.com

29 June - 2 July 2000 Cannes - Cote D'azur, France

6th INTERNATIONAL

CHOLESTEATOMA & EAR SURGERY

Website: http//www.chole2000.com

17 - 21 September 2000 Glasgow, United Kingdom

EUROPEAN VIROLOGY 2000

Contact: Dr. Bill Carman
Institute of Virology, University of Glasgow Church Street, G11 5JR Glasgow, Scotland, United Kingdom.
Phone: +44-141-330 40 17 Fax: +44-141-337 22 36
Email: w.carman@vir.gla.ac.uk

18 - 22 September 2000 Oxford, United Kingdom

OXFORD 2000 : NEW CHALLENGES IN TROPICAL MEDICINE

AND

PARASITOLOGY

Contact: Secretariat
Email: ccs@cmc.co.uk
Phone: +44-1625-624 091

5 - 7 October 2000 Paris, France

3rd Louis Pasteur Conference on Infectious Diseases:
Evolution of Pathogens and their Hosts

Website: www.pasteur.fr/infocci/conf/evolpath.html

ANSWER TO PHOTO QUIZ

The hemoculture of the patient was sterile.

In the lavage fluid, which was performed from the lesion at the dorsum of the hand with sterile technique, Candida Albicans was isolated. After 15 days course of Amphotericin B therapy the lesion regressed.

Peripheral IV catheters clearly can be a portal of entry and a focus for Candida suppurative thrombophlebitis(1,2). In addition to IV amphotericin B therapy removal of peripheral vascular catheters and if necessary, segmental resection of the infected vein are important for complete therapeutic response.

The risk of catheter infection is increased among premature infants and young children, patients with neutropenia or catheter thrombosis, and those receiving total parenteral nutrition.

Gram-positive bacteremia accounts for 60-70% of episodes of catheter sepsis (S. epidermidis, S. aureus, S. pyogenes, S. faecalis), gram-negative enteric bacteria occur in 20-30% of episodes (Klebsiella spp., E. coli, Pseudomonas spp., Acinetobacter spp.), and fungi account for 5-10% of catheter sepsis episodes (Candida spp., Malassezia furfur). Mycobacterium fortuitum, Bacillus spp., and polymicrobial sepsis are rare causes of catheter infections (3).

An increase in incidence of superficial suppurative thrombophlebitis due to Candida spp. was reported recently(2,4); all patients were receiving antibiotics without hyperalimentation. Prudent use of wide spectrum antibiotics is essential to control increased incidence of nosocomial fungal infections.

REFERENCES

1. *Malfroot A,Verboven M,Levy J,et al.Suppurative thrombophlebitis with sepsis due to Candida albicans:an unusual complication of intravenous therapy in cystic fibrosis. Pediatr Infect Dis J 1986;5:376-377.*
2. *Walsh TJ,Bustamente C,Vlahov D,et al.Candida suppurative peripheral thrombophlebitis:prevention,recognition and management. Infect Control 1986;7:16-22.*
3. *Hughes W. Infections in the compromised host. In: Behrman RE,Kliegman RM,Arvin AM,eds. Nelson Textbook of Pediatrics.Pennysylvania:W.B.Saunders Company, 1996:741-742.*
4. *Torres-Rojas JR,Stratton CW,Sanders CV,et al.Candidal suppurative peripheral thrombophlebitis. Ann Intern Med 1982;96:431.*

ACADEMIC HOSPITAL

Altunizade Nuhkuyusu Cad. No: 88 Üsküdar Tel.: (0.216) 341 28 41

MARMARA ÜNİVERSİTESİ TIP FAKÜLTESİ VAKFI

Academic Hospital

Altunizade Nuhkuyusu Cad. No: 88 Üsküdar

Tel.: (0.216) 492 47 50 Fax: (0.216) 492 47 62

Contents

Printed by Kurtiş
İstanbul - Türkiye