Some studies encountered about melatonin
By Philippe Hug, April 27th, 2007

http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=pubmed&cmd=Retrieve&dopt=AbstractPlus&list_uids=12456290&query_hl=10&itool=pubmed_docsum

Int J Radiat Biol. 2002 Nov;78(11):1029-36.

Melatonin metabolite excretion among cellular telephone users.

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PURPOSE: The relationship between cellular telephone use and excretion of the melatonin metabolite 6-hydroxymelatonin sulfate (6-OHMS) was evaluated in two populations of male electric utility workers (Study 1, n=149; Study 2, n=77).

MATERIALS AND METHODS: Participants collected urine samples and recorded cellular telephone use over 3 consecutive workdays. Personal 60-Hz magnetic field (MF) and ambient light exposures were characterized on the same days using EMDEX II meters. A repeated measures analysis was used to assess the effects of cellular telephone use, alone and combined with MF exposures, after adjustment for age, participation month and light exposure.

RESULTS: No change in 6-OHMS excretion was observed among those with daily cellular telephone use >25 min in Study 1 (5 worker-days). Study 2 workers with >25 min cellular telephone use per day (13 worker-days) had lower creatinine-adjusted mean nocturnal 6-OHMS concentrations (p=0.05) and overnight 6-OHMS excretion (p=0.03) compared with those without cellular telephone use. There was also a linear trend of decreasing mean nocturnal 6-OHMS/creatinine concentrations (p=0.02) and overnight 6-OHMS excretion (p=0.08) across categories of increasing cellular telephone use. A combined effect of cellular telephone use and occupational 60-Hz MF exposure in reducing 6-OHMS excretion was also observed in Study 2.

CONCLUSIONS: Exposure-related reductions in 6-OHMS excretion were observed in Study 2, where daily cellular telephone use of >25 min was more prevalent. Prolonged use of cellular telephones may lead to reduced melatonin production, and elevated 60-Hz MF exposures may potentiate the effect.

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Melatonin reduces night blood pressure in patients with nocturnal hypertension.

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PURPOSE: Nocturnal hypertension is associated with a high risk of morbidity and mortality. A blunted nocturnal surge in melatonin excretion has been described in nondipping hypertensive patients. We therefore studied the potency of melatonin to reduce nighttime blood pressure (BP) in treated hypertensive patients with nocturnal hypertension.

PATIENTS AND METHODS: Thirty-eight treated hypertensive patients (22 males, mean age 64+/-11 years) with confirmed nocturnal hypertension (mean nighttime systolic BP >125 mm Hg), according to repeated 24-hour ambulatory blood pressure monitoring (ABPM), were randomized in a double-blind fashion to receive either controlled release (CR)-melatonin 2 mg or placebo 2 hours before bedtime for 4 weeks. A 24-hour ABPM was then performed.

RESULTS: Melatonin treatment reduced nocturnal systolic BP significantly from 136+/-9 to 130+/-10 mm Hg (P=.011), and diastolic BP from 72+/-11 to 69+/-9 mm Hg (P=.002), whereas placebo had no effect on nocturnal BP. The reduction in nocturnal systolic BP was significantly greater with melatonin than with placebo (P=.01), and was most prominent between 2:00 AM and 5:00 AM (P=.002).

CONCLUSIONS: Evening CR-melatonin 2 mg treatment for 4 weeks significantly reduced nocturnal systolic BP in patients with nocturnal hypertension. Thus, an addition of melatonin 2 mg at night to stable antihypertensive treatment may improve nocturnal BP control in treated patients with nocturnal hypertension.

Publication Types:

- Randomized Controlled Trial

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Note from Iris Atzmon :

Melatonin reduces night blood pressure in patients with nocturnal hypertension

A new study from Israel provides us more hints, indirectly, about the EMF and blood pressure connection - since electromagnetic pollution reduces human melatonin levels, and melatonin deficiency is related below to high blood pressure at night, then what does it say about blood pressure at night - in people who are exoposed to EMF-R? Very interesting new study.

Neuro Endocrinol Lett. 2003 Jun-Aug;24(3-4):259-62.

Total pineal endocrine substitution therapy (TPEST) as a new neuroendocrine palliative treatment of untreatable metastatic solid tumor patients: a phase II study.

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OBJECTIVES: It is known since many years that the pineal gland plays an anticancer role, and melatonin (MLT), the most investigated pineal hormone, has been proven to exert antitumor activity. However, MLT would not be the only hormone responsible for the antitumor action of the pineal gland. In fact, recent advances in the pineal investigations have shown that pineal indoles other than MLT may also exert anticancer activity, namely the three main indoles, consisting of 5-methoxytriptamine (5-MTT), 5-methoxytryptophol (5-MTP) and 5-methoxy-indole acetic acid (5-MIA). Cancer progression has appeared to be associated with a concomitant decline in the pineal endocrine function. Therefore, the replacement of a complete pineal function in the advanced cancer patients would require the exogenous administration of the overall four pineal indoles. Several clinical studies have shown that MLT alone at pharmacological doses may induce a control of the neoplastic progression in about 30% of untreatable metastatic solid tumor patients. The present study was performed in an attempt to evaluate the therapeutic of a total pineal endocrine substitution therapy with its four indole hormones in cancer patients, for whom no other conventional therapy was available.

METHODS: The study included 14 metastatic solid tumor patients, who had failed to respond to the conventional anticancer therapies. The pineal indoles were given orally according to a schedule elaborated in an attempt to reproduce their physiological circadian secretion during the daily photoperiod. MLT was given at 20 mg/day during the night, whereas the other indoles were given at 1 mg/day, by administering 5-MIA in the morning, 5-MTP at noon and 5-MTT in the afternoon. RESULTS: A disease-control was achieved in 9/14 (64%) patients, consisting of partial response (PR) in one patient and stable disease (SD) in the other 8 patients. The median time of disease-control (PR + SD) was 6 months (range: 4-10).

CONCLUSIONS: This preliminary study shows that a total pineal endocrine replacement therapy by an exogenous administration of the overall four pineal indoles may induce a disease-control in about 60% of untreatable metastatic solid tumor patients. Then, these results would be clearly superior with respect to those described with MLT alone, by confirming in humans that MLT is not the only hormone responsible for the anticancer property of the pineal gland. Since Cartesius was the first author who suggested the fundamental role of the pineal in the connection between consciousness and biological life, this therapy could be defined as a Cartesian therapy.

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Oxidative damage in the kidney induced by 900-MHz-emitted mobile phone: protection by melatonin.

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BACKGROUND: The mobile phones emitting 900-MHz electromagnetic radiation (EMR) may be mainly absorbed by kidneys because they are often carried in belts. Melatonin, the chief secretory product of the pineal gland, was recently found to be a potent free radical scavenger and antioxidant. The aim of this study was to examine 900-MHz mobile phone-induced oxidative stress that promotes production of reactive oxygen species (ROS) on renal tubular damage and the role of melatonin on kidney tissue against possible oxidative damage in rats.

METHODS: The animals were randomly grouped as follows: 1) sham-operated control group and 2) study groups: i) 900-MHz EMR exposed (30 min/day for 10 days) group and ii) 900-MHz EMR exposed+melatonin (100 microg kg(-1) s.c. before the daily EMR exposure) treated group. Malondialdehyde (MDA), an index of lipid peroxidation), and urine N-acetyl-beta-d-glucosaminidase (NAG), a marker of renal tubular damage were used as markers of oxidative stress-induced renal impairment. Superoxide dismutase (SOD), catalase (CAT), and glutathione peroxidase (GSH-Px) activities were studied to evaluate the changes of antioxidant status.

RESULTS: In the EMR-exposed group, while tissue MDA and urine NAG levels increased, SOD, CAT, and GSH-Px activities were reduced. Melatonin treatment reversed these effects as well. In this study, the increase in MDA levels of renal tissue and in urine NAG and also the decrease in renal SOD, CAT, GSH-Px activities demonstrated the role of oxidative mechanism induced by 900-MHz mobile phone exposure, and melatonin, via its free radical scavenging and antioxidant properties, ameliorated oxidative tissue injury in rat kidney.

CONCLUSIONS: These results show that melatonin may exhibit a protective effect on mobile phone-induced renal impairment in rats.

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Nitric oxide level in the nasal and sinus mucosa after exposure to electromagnetic field.

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OBJECTIVE: The purpose of this study was to examine the changes in nitric oxide (NO) level in the nasal and paranasal sinus mucosa after exposure radiofrequency electromagnetic fields (EMF).

STUDY DESIGN AND SETTING: Thirty male Sprague-Dawley rats were randomly grouped as follows: EMF group (group I; n, 10), EMF group in which melatonin received (group II; n, 10) and the control (sham operated) group (group III; n, 10). Groups I and II were exposed to a 900 MHz. Oral melatonin was given in group II. Control rats (group III) were also placed in the tube as the exposure groups, but without exposure to EMF. At the end of 2 weeks, the rats were sacrificed, and the nasal and paranasal sinus mucosa dissected. NO was measured in nasal and paranasal mucosa.

RESULTS: The nasal and paranasal sinus mucosa NO levels of group I were significantly higher than those of the control group (group III) ($P < 0.05$). However, there was no statistically significant difference between group II and the control group (group III) regarding NO output ($P > 0.05$).

CONCLUSION: Exposure to EMF released by mobile phones (900 MHz) increase NO levels in the sinus and nasal mucosa.

SIGNIFICANCE: Increased NO levels may act as a defense mechanism and presumably related to tissue damage. In addition, melatonin may have beneficial effect to prevent these changes in the mucosa.

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GLANDE PINÉALE ET MÉLATONINE :

SOMMEIL ET IMMUNITÉ

Notre système immunitaire dépend de la sécrétion de mélatonine par la glande pinéale, une minuscule glande située entre les deux hémisphères cérébraux.

Cette sécrétion s'opère la nuit, et si l'on sait depuis une vingtaine d'années que la glande pinéale est photo-sensible, on ignore que des recherches récentes ont mis en évidence que cette glande est également magnéto-sensible, soit sensible aux champs électromagnétiques alternatifs.

La glande soumise à un champ de plus de 100 nanoTesla* cesse sa production de mélatonine.

Un tel champ peut être dû à un radio-réveil situé à la tête du lit. Il a été démontré que l'utilisation de téléphone mobile qui émet un champ toujours supérieur à 2000 nanoTesla inhibe la sécrétion de mélatonine. Une seule utilisation d'une minute du portable suffit parfois à supprimer la sécrétion de mélatonine pendant une semaine. Cette utilisation se voit encore sur un électroencéphalogramme plusieurs jours après.

La mélatonine est notre hormone à la fois du sommeil et de l'immunité. Le manque de mélatonine provoque à la fois l'insomnie (en augmentation spectaculaire dans notre civilisation) et la dégradation du système immunitaire qui commence toujours par des allergies.

N.B. Le groupe de pression de la téléphonie mobile est tellement puissant qu'il empêche toute publication à ce sujet, bloquant aussi les "droits de réponse" y relatifs dans les journaux.

(La Tribune de Genève fait ici une heureuse exception) (Info L. Péclard)

** nano = 1 milliardième de Tesla (nom du physicien) "l'unité de la force du champ magnétique".*

Dr Yves Primault

Professeur honoraire à l'Université internationale de Milan (TdG 15.7.05)

<www.geobiology.org et <www.verite-sans-frontiere.org>

Note from Philippe Hug, abstract translation :

We know, since about 20 years, that the pineal gland is photo-sensible. But recently, they discover it is magneto-sensible. Pineal gland under 100 nanoTesla (!!!) exposure stop melatonin secretion. This could be provoked by a radio-clock near the bed. But it has been demonstrated that the use of a mobile phone ever go beyond 2000 nanoTesla and inhibits melatonin secretion. Only one minute use of a mobile phone can sometime suppress melatonin secretion for a week (!!!). Missing melatonin provokes insomnia (like 78 % of the Swedish population, ref. Olle Johansson in the article : "How Shall we Cope With the Increasing Amounts of Airborne Radiation ?") and immune system degradation that ever begin by allergies.

Philippe repeat : Mayday, mayday, mayday...