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CONTRIBUTION TO THE UNDERSTANDING OF THE DEGENERATIVE PATHOLOGY AND A PROPOSAL OF A GLOBAL THERAPEUTIC SOLUTION

*J.P. SUBRENAT**

The purpose of this memoir is to consider the possibility of a global solution to the degenerative pathology by means of a simple, unique, ambulatory and totally innocuous procedure. The degenerative pathology (canceration, atheromasia, multiple sclerosis, schizophrenia and Alzheimer's) constitutes the major agent of morbidity and mortality. It substituted itself in this role to the viral pathology, jugulated by the vaccination, and the infectious pathology, eradicated by the treatment by antibiotics. Its progression has been resistant to all efforts and no solution to any of these affections has been found up to the present. However, biologically, there are reasons to think that a common solution resides in the drying up of the growth hormone in the adult. Here are the reasons, all of which are based on established biological data. First of all, **in the subject who has stopped his growth, the growth hormone does not serve a purpose any longer** *(Kipnis 1968, Tchobroutsky 1970, Linquette 1973).* Whether natural and taking place with age or provoked, its drying up is not accompanied in the adult with either immediate or retarded physiological or pathological effect *(Schaub 1974)* . Once growth in finished, the growth hormone does not have any more interest than the other remnants of the organogenesis which is particularly slow in human species. Without any physiological interest subsisting **in the adult, the growth hormone presents the inconvenience of maintaining the stimulation of the immature remnants** of the organogenesis and the one of the which, like the cancerous cells, recover a status of immature cells. This proliferative stimulation of the residual or involutional cells has the major responsibility of the degenerative pathology of which we are going to consider its various expressions.

CANCER

One cannot cancerate an hypophysiolyzed animal *(Courtial).* This inhibition of the carcinogenesis results from the fact that the growth hormone is a major factor of proliferation of the embryonic cells or the cells which, like the cancerous cells, recover an embryonic status.

This sensitivity of the cancerous cells to the growth hormone can be noticed as well *in vitro* as *in vivo (Sibilly, Weill, Sühler).* Moreover it constitutes the foundation of the indication of hypophysectomy, in painful uncontrollable cancer *(Talairach, Gorins),* by generating a quiescence of the proliferation with the antalgic effect which is the consequence of it. Now, taking into account the incidence of canceration in general mortality, it is better to inhibit carcinogenesis than to fight against cancer. In other words, it is better to proceed in the drying up of the growth hormone as soon as it does no serve any purpose any more the to risk a canceration to preserve an organogenetic remnant, the same way as we would preserve an appendix or a wisdom tooth.

* International Biological Union. 1991 From Paris, Francia

AGEING

Genetic programming sets life duration; this maximal life duration is about 120 years in the human species. This programming is fundamentally conditioned by the limitation of the possible number of divisions in the safe cellular lines. In the human species, this "intrinsic kinetic potential" is 70 divisions *(in vitro* as *in vivo)* among which 50 are carried out until adult maturation of the organism and 20 are available to the end of an individual's days. **Now, the precocious ablation of the hypophysis is accompanied, in animals, by and increase of life duration** *(Christen PM 25-9-86).* The reason for his effect is the same as the one we just considered, i.e. "the growth hormone has a stimulating action on tissular growth in general and on the one of tumors in particular" *(Sibilly).* By stimulating the maturation of the cells of the still available stock at adulthood, the growth hormone hastens the drying up of this "intrinsic kinetic potential" of the cellular populations, and thus reduces longevity. Giants and acromegalics die prematurely; the precocious drying up of the growth hormone acts in reverse. Among all degenerative processes, the only ineluctable one is ageing, which sees the exhaustion of the genetically limited stock of the cellular divisions, indispensable in replacing the cells used by the metabolism. The elimination of the stimulating hormone which hastens the exhaustion of this kinetic potential delays the terminal impoverishment of the parenchymas which leads to natural death.

ATHEROMASIA

We have known for a short time that arterial degeneration fundamentally results from a canceration of the arterial wall. This very canceration of the vascular muscular cells initiates the development of the atheromatous deposit. All international teams agreed in 1988 (12 th Symposium in Kyoto) with the new datum which was introduced in France in 1986 *(Milliez)* and the consequences of which were immediately recognized *(Lagrue 1987).* We can already notice two essential points. On the one hand, the most usual manifestations of atheromasia (myocardial infarct, hemiplegia) are both part of the list of **the states of hypersecretion of the growth hormone;** on the other hand, **under yet the most atherogenous conditions, the atheromatous evolution is stopped by the drying up of the growth hormone** *(Sheehan's Syndrome).* Therefore we have all biological reasons to think that, on the one hand, this drying up is able to break the positive correlation between the growth hormone and atheromasia and, on the other hand, this drying up inhibits atheromatous evolution.

MULTIPLE SCLEROSIS

On February 1980, the French Ministry asked the General Head of Public Health to proceed in a quest whose goal was to define the correlation between multiple sclerosis and hypophyseal somatotrophic hormone. This quest (Salpètrière) came to the following conclusion: **one has never seen an hypophysiolyzed individual contract multiple sclerosis.** The explanation of this phenomenon is based on the fact that the nervous system is not mature at birth. Effectively the nervous organogenesis is extremely slow; it is achieved only at about forty of so and the myelinogenesis which conditions and reflects the accession of the immature neuronal islets to function becomes discotinuous at the end of its course. Sclerosis patches are scars of a viral infestation to the myelinic cells (oligodendrocytes) satellites of those islets of tardy maturation. When viral myelinitis happens in a young adult whose neuronal or ganogenesis has become insular and discontinous, the scars become modular and iterative. By not allowing the maturation of these terminal residual islets from adulthood, the drying up by hypophysiolyzis of the

growth hormone does not allow this infestation to be expressed and thus does not allow the disease to evolve. That's why an hypophysiolyzed patient cannot get multiple sclerosis, which the quest confirms. Since this drying up does not cost anything biologically, it is clear that it is necessary to proceed with it as soon as the diagnosis of multiple sclerosis is made. Furthermore, the abstention of the drying up of the growth hormone in patients with multiple sclerosis, when one knows that somatostatin which inhibits this hormone is failing in these patients, is a real problem of conscience.

SCHIZOPHRENIA

It is sufficient to consult **the table of the hypersecretion's states of growth hormone to notice that schizophrenia is found at the top of the list,** immediately under acromegalia. Furthemore, these two affections entertain close bounds which are manifested by the great frequency of acromegaloïd morphotype in schizophrenia (School of Zürich). In schizophrenia, there is a hypersecretion of the growth hormone. In addition, there is an abnormal secretory response, as much from chemical stimulation as from hormonal stimulation, in the cells which secrete the growth hormone (Physiology in Medecine, vol. 297 N° 18 and Cilad-Dickerman.) The drying up of the growth hormone, aiming to rupture this correlation binding the growth hormone and schizophrenia, is absolutely essential as it is in acromegalia. As in multiple sclerosis, the understanding of the pathogenic mechanism is based on the fact that the nervous system is not mature a birth. By electively stimulating the tardy immature neuronal remnants of cephalization because of their abnormally low threshold, the growth hormone confers to them a prevalence which finally becomes dominant over the already organized sites of the initial and fundamental cephalization. Now, the initially organized sites of the cephalization emit information shaped by the reality and educated by apprenticeship during two decades whereas terminal sites have no time to be shaped by confrontation with reality. If the information emitted by the terminal sites which normally are accessory and subordinate, becomes prioritary and dominates the main information, the hierarchy of the information is ruptured and reversed: that is schizophrenia. It sees the progressive remoteness of reality and the prevalence of the uneducated and unbridled freedom of the signals from the terminal cephalization over the initial signals durably shaped by reality. This viciation is progressive because it is the activation of the pathways which conditions, anatomically by increasing their calibre, the speed of the signals having access to the frontal integrator. More, the terminal network is active, more its fibers are conductive and more the principal network is functionally frustrated and anatomically involutive.

ALZHEIMER'S DEMENTIA

Alzheimer's dementia is to the aged adult what schizophrenia dementia is to young adult. The two precesses are fundamentally identical. They both result from a parasitic and finally exclusive dominance of the information emitted by the terminal sites of the cerebral organogenesis over the one emitted by the initial sites. Now this terminal information is that which has been the least shaped by reality and the least educated by a long apprenticeship of two decades. Under normal conditions, this terminal information is subordinated to the main information, which is prioritary, and limited to nuancing it. When this hierarchy in information gets reversed, there is a progressive rupture with the reality; that is dementia. Since it is which conditions trophism and conductibility of the networks, as soon as a dominance of the terminal network starts, it tends to become invasive, then irreversible and finally exclusive. The information is transferred

from an ancient structure which is shaped by reality towards a recent one which is totally free from experience contingencies. Clinical pictures of schizophrenia and alzheimer's are a good image of this mechanism. In schizophrenia in the young adult, the abnormal receptivity of the terminal neuroblasts to the growth hormone induce their hyperplasia with a generally unreal mental symptomatology which is productive, excessive and expansive, whereas in Alzheimer's in the aged adult the premature disappearance on the big cells of the initial network makes the ancient and essential memorial data which are fixed in it disappear, giving free rein to the accessory and uneducated information of a terminal otherwise normal network. The fundamental memory regresses with the regression of the fundamental cortex. From this identity of mechanism flows a unicity of therapeutical solution which is the drying up the growth hormone. In schizophrenia, this drying up prevents the maturation of the terminal parasitic sites on the condition that it be precocious. In Alzheimer's drying up implies the same precocity, that is to say several decades before the appearance of the disease, because it supervenes at an age when the cerebral organogenesis is totally realized. It eliminates the ulterior competition of a terminally uneducated structure becoming parasitic as soon as the initial neurones, which prematurely degenerate in Alzheimer's, disappear. However, since it is the functional activation which maintains the trophicity and survival of the networks, the impoverishment of the main one is precipitated if parasitic pathways exist turning the information aside. The drying up does not reestablish the prematurely destroyed neurones but it excludes, on the one hand, the competition of an uneducated network carrying factors of dementia and, on the other hand, it prolongs the activation and thence the survival of the fundamental residual neuronal stock carrying the semantic memory. There is no other solution for alzheimer's. One cannot effectively count on a neuronal plasticity which does not exist any longer at this age in a structure otherwise impoverished. It is also illusive to consider now the suppression of multiple causal factor, among which are the neurotropic poisons. They act in minimal and cumulative doses since childhood and result in abridging the longevity of the initial neurones whereas the latecomers of the organogenesis, which one would hope would be prevented in their parasitic activity, escape from it because of their tardy maturation. As far as we know, a consultation of the dossiers has not been done yet that allows to establish the inexistence of Alzheimer's in aged adults hypophysiolyzed when they were young. But we already know the **children under growth hormone are risking-and the are warned of it-a dementia, a few decades later, at the alzheimerian age** *(Job, Mollet).*

SUMMARY

Finally, the degenerative pathology consist of a parasitic prevalence of blastic remnants (or cells which recuperate an embryonic status).

In an adult, the are physiolocially as useless as is useless the growth hormone which stimulates them. The degenerative pathology is in conformity with the **Conheim's law,** which has remained classical and unexploited for one century. The drying up of the growth hormone in a adult will prevail under the conjugated effect of the theoretical evidence, the control through experiments, the socio-economical necessity and most of all the **benignity of the procedure.** The effective dose of radiation focused on the hypophysis is well codified (13,5 mCi) and it is sufficient to inhibit the growthstimulin exclusively, the secretion of the other stimulins being respected. It is distributed on the hypophyseal target by a simple radiotherapeutic flash by mean of the helmet of a Gamma Unit apparatus. This

apparatus becomes generalized and the trouble represented by the procedure is equivalent to the one from a radiological examination.

REFERENCES

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All cellular grouping are receptor of stimulating hormone so much more eager as their kinetic potential is high.
"The somatorophic hormone has a stimulating action on the tissular growth in general and the one of the tumors in particular" (Sibilly, Weill, Sühler).

2. Communication Schaub. Congrès d'ophtalmologie de Bordeaux. November 1978.
(Cochin-Hopital Sainte Anne).

The works of J. Talairach and coll. (1965) had shown that in front a gamma ray, the somatotropic cells were characterized by a radiobiological threshold clearly inferior to the one of the other hypophyseal ligneages. These facts explain that an intra-pituitary stereotactic implantation of a micro-emitting of prevailing gamma energy (au 198) determining an interstital hypophyseal checking stereo Gammatherapy (stereo-GIHF) in its principles opposes the uselessly mutilating or not reproductible hypophysectomy and hypophysiolyzis. **Effectively the results of the Stereo-GIHF is the inhibition of the growth hormone secretion alone, all the other hypophyseal functions remaining preserved.**

3. Gazette Médicale. Poncet Ramade. 1987.94. N° 13, p. 55.

The affection of the semantic memory which constitutes the cultural range of knowledge, the knowledge about the world is, practically constant and sometimes severe in Alzheimer's disease, whereas it does not exist in the case of the normal cerebral ageing.

4. J.M.P.: 16-2-88.

So the Healt Ministry forcsees in France 500.000 Alzheimer's dementias around the year 2000, which constitutes a particulary preoccuupying number.

This alarming and ineluctable evolution suddenly revealed the severity of the situation.

5. Nouvelle Presse Medicale. 16. N° 10. 8-3-86.
Creutzfeldt-Jakob disease after human growth hormone.

The subjects had been treated for a global panhypopituitarism, and thus had received high doses of human growth hormone.

6. Quotidien du Médecin. 9-1-91. Radiotherapie multifaisceaux.

This method which uses the particles accelerator, calls, like the Gamma Unit, for the stereotactic technics.

The patient has a helmet on his head which is put on after precise spotting... The target receives the maximun dose of radiotherapy, which corresponds to a true bistouri cut. The other cerebral territories are swept only very feeble doses. The all difficulty consists in the necessity of puting the target in the center of convergency of the rays.

This objective is reached more easily with a Gamma-Unit type apparatus...

7. Quotidien du Médecin. Pr. Job. M. Mollet. 12-5-87

"...The children who have been taking for years already the extractive hormone, persue the same therapeutics knowing fully what the are doing. That is to say the are prevented from the risk (very low) of the happening, may years later, of a Creutzfeldt-Jakob disease".

8. On the other hand, the STH secretion has cruly been suppressed after 12 months in one third of the cases, after 18 months in the other subjects (but neve before 6 months).

The dose of gold used for that has been an object of an hesitation. In the 10 first subjects, the source had on activity of 16.5 mli. But after one year, and incomplete or complete hypopituitarisme appeared. The activity of the source used in the 202 other subjects has been

then reduced to 13.5 mCi. **None of them has since manifested any other hypopituitarism than the suppression on the STH secretion.**

The desired goal, to suppress this secretion, has thus been reached, in a particulary adapted way because selective and not mutilating.

9 Précis d'endocrinologie par Linquette - Fossati. Masson 1973. p. 56.

Role of the somatotrophic hormone in normal adult.

In the subject who has finished his growth, with a normal energetic balance, the growth hormone does not seem to have an essential or vital role in maintaining the metabolic homeostasy of the organism (kipnis et coll., 1968; Tchobroutski, 1970).

10. Tempo Médical N° 418. 20-2-91. D'après Institut Montreal.

As a matter of fact, our actual knowledges astonishingly resemble those which have been accumulated in the field of cancer about the implication of the growth factor in the hyperplastic process.

11. Tensiologie. N°13. Février-Marx 1987.

The drying up of the growth hormone stops the atheromatous evolution even under the most atherogenic conditions (Sheehan's Syndrome).

12. Voix du Nord. Catherine Roy. 28-3-89. La maladie d'Alzheimer.

We consider that one out of thousand persons is affected by it in a manifestive way at 55 years of age and... one out of five at the age of 80... Beyond 80 years old, the number of affected persons does not increase anymore.

13. Y. Christen. Mémoire. Masson. Nouvelle Presse medicale. 25-9-8

The precocious ablation of the hypophysis is accompanied, in rats receiving a complement of corticoïds is able to increase of the duration of their life.