

# **HYPERPROLACTINEMIC AMENORRHEA**

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## **SUMMARY**

The Author takes into account the relationship between hyperprolactinemia and secondary amenorrhea and the possible treatments of hyperprolactinemic amenorrhea.

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Hyperprolactinemic amenorrhea is an important and quite recent subject: the two basic moments of birth and development of this problem can be summarized in the identification of the prolactin hormone's structure<sup>(1)</sup> and the elaboration of a practical and precise method<sup>(2)</sup> for its quantitative measurement.

Clinical situations (Chiari-Frommel<sup>(3,4)</sup>, Argonz-Del Castillo<sup>(5)</sup>, Forbes-Albright<sup>(6)</sup> syndromes), now recognized as being prolactin dependent, were long ago known: in those years, however, the etiopathogenic cause was not clear and, moreover, the existence of the prolactin hormone in humans was not proved, either as a biochemical entity, or as an important biological factor. The importance of prolactin in the field of physiopathology and human reproduction became evident only in the seventies.

Prolactin dosage became compulsory in all the cases of amenorrhea: in 1978<sup>(7)</sup> it was published by us that about 25% of all secondary amenorrhea were of hyperprolactinemic origin; these data are, in fact, confirmed by world literature<sup>(8)</sup>.

While our practical knowledge on hyperprolactinemia was improving, we realized that galactorrhea was not always present in hyperprolactinemia, not even in the cases presenting high prolactin: only one third of the patients showed this symptom. On the contrary, 65% of the women with galactorrhea presented hyperprolactinemia. So we realized that hyperprolactinemia is not always necessarily accompanied by amenorrhea, although amenorrhea is almost always present when the values are very high: in case of non severe hyperprolactinemia, ovulatory cycles can coexist. When prolactin values grow, luteal insufficiency and an ovulatory cycles can be noticed.

Although there is no relation between prolactin levels and galactorrhea, a certain relation between hyperprolactinemia, gravity and menstrual disturbances, gravity can be seen.

After this short introduction, I would like to talk about therapeutic strategy in hyperprolactinemic amenorrheas. Hyperprolactinemia therapy can be medical (we almost always use bromocriptine, and limit the use of metergoline to a few cases) or surgical (adenomectomy, possibly transphenoidal, entrusted to our colleagues the neurosurgeons of Padua University).

Radiation therapy is only considered for the cases where surgery was not radical, or in case of relapses.

Before starting any treatment against amenorrhea, it is necessary to distinguish whether it is an organic (adenoma) or a so called "functional" form. Logically, we do not consider here the cases due to other causes such as primitive hypothyroidism or administration of prolactin stimulating drugs.

The presence of an adenoma will be detected with classical instrumental researches (standard X ray, polytomography, computed axial tomography). In case of doubtful results, we regard a prolactin that is constantly greater than 100 ng/ml as being highly evocative of a microadenoma. It is very useful to distinguish the hypophyseal alteration in:

A) a macroadenoma with compressive signs;

B) a macroadenoma without compressive signs;

C) a microadenoma.

The tendency of our school is rather reluctant to the use of surgery at first hand. Surgery is considered to be mandatory only for case A, while for case B and C, or in the so called "functional" hyperprolactinemia we prefer to use medical therapy together with a thorough and strict follow-up of the prolactin values and, above all, of the radiologic images.

For the cases B and C, we switch to surgical therapy only in case of failure of the medical therapy or if an adenoma growth tendency is radiologically ascertained. In

our opinion, even the wish for pregnancy in group B and C patients is not an absolute indication for surgical pre-treatment: in our experience the pregnancies of patients with pituitary adenomas (mostly microadenomas) always evolved physiologically: not only did the adenoma always remain asymptomatic, but the post-delivery controls never showed any significant increase of the adenoma itself<sup>(9)</sup>. There was only one case<sup>(10)</sup> in which the adenoma made itself known by causing continuous headaches that did not regress with normal analgesic drugs, but were successfully treated with bromocriptine during the whole course of the pregnancy.

Our conclusive considerations on hyperprolactinemic amenorrhea can be summarized as follows:

- always, and not only in case of amenorrhea but also in case of menstrual irregularity and luteal insufficiency, perform prolactin dosage;

- if prolactin is high, always perform the necessary instrumental researches to bring to the fore the possible pituitary adenoma;

- medical therapy is almost always sufficient and efficient, and surgical therapy should only be applied to a limited number of cases and for very precise indications;

- pregnancies in hyperprolactinemic patients, even adenoma carriers, usually evolve normally and, although they have to be carefully supervised, they are neither risky for the mother nor for the fetus.

#### BIBLIOGRAPHY

- 1) Lewis U. J., Singh R. N. P., Seavey B. K.: *Bioch. Biophys. Res. Comm.*, 44, 1169, 1971.
- 2) Hwang P., Guyda H., Friesen H.: *Proc. Nat. Acad. Sci. (USA)*, 68, 1902, 1971.
- 3) Chiari J. B. V. L., Braun C., Spaeth J.: *Klinik der geburtshilfe und gynakologie*. Enke, Erlangen, 1852.

- 4) Frommel R.: *Z. Geburtsh. Gynakol.*, 7, 305, 1852.
- 5) Argonz J., Del Castillo E. B.: *J. Clin. Endocrinol.*, 13, 79, 1953.
- 6) Forbes A. P., Henneman P. H., Griswold G. L., Albright F.: *J. Clin. Endocrinol.*, 14, 265, 1954.
- 7) Gangemi M., Meneghetti G., Ozoeze O. D.: *Clin. Exp. Obst. Gyn.*, V, No. 1-2, 1978.
- 8) Speroff L., Glass R. H., Kase N.: *Clinical gynecologic endocrinology and infertility*. Third ed., p. 254, Williams and Wilkins, Baltimore, USA, 1983.
- 9) Gangemi M., Meneghetti G., Benato M., Ferruzzi E., Guacci A. M., Marchesoni D.: *Clin. Exp. Obst. Gyn.*, X, No. 2-3, 1983.
- 10) Becagli L., Paternoster D., Gangemi M.: *Clin. Exp. Obst. Gyn.*, VI, Suppl. 2, 1979.