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Case Report Open Access

Rare Association of Macroprolactinemia and Empty Sella Syndrome

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Abstract

Background: Macroprolactinemia is a polymeric form of prolactin-release, causing mildly symptomatic clinical pictures. The former can be isolated or associated with other causes of hyperprolactinemia. The association with an empty sella syndrome is rare. We report a case of a female patient discovered with this association.

Observation: It's about a female patient 47 years old, followed up since the age of 31 years for bilateral galactorrhea and a spaniomenorrhea. There has been no associated drug intake. Her exploration has showed a serum prolactin level of 635 mIU/L. Thyroid test results were normal T4=10.2 ng/L and TSH=1.76 mIU/L. A brain scan has showed an empty sella turcica. Despite the unchanged levels of prolactinemia, the evolution under dopaminergic 5 mg/D has been marked by the occurrence of a pregnancy with persistent moderate hyperprolactinemia in the postpartum. Chromatography has showed a predominance of the macroprolactin form with: Prolactin monomer at 4.8%, Big Prolactin at 5% and Big Big Prolactin at 83%, thus stopping bromocriptine.

Conclusion: Our observation suggests that macroprolactinemia can be associated with conventional etiologies of moderate hyperprolactinemia as the empty sella syndrome. Its detection would prevent the use of dopaminergic therapy which seems not useful.

Keywords: Hyperprolactinemia; Macroprolactinemia; Empty sella syndrome; Pregnancy

Abbreviations: PRL: Prolactin; FSH: Follicle stimulating hormone; LH: Luteinizing hormone

Introduction

Prolactin (PRL) exists in the blood under many forms: monomeric (60-85%), polymeric and PRL-protein complexes of higher molecular weight [1].

Macroprolactinemia is a polymeric form of prolactin-release, causing mildly symptomatic clinical pictures [2]. The former can be isolated or associated with other causes of hyperprolactinemia [3].

We report the case of a macroprolactinemia being discovered in a patient with an empty sella Syndrome. We report the case of a macroprolactinemia being discovered in a patient with an empty sella Syndrome.

Observation

It consists in a 47 years old female patient, who has been followed up since the age of 31 years for bilateral galactorrhea and a spaniomenorrhea. There has been no associated drug intake. Her exploration has showed a serum prolactin level of 635 mIU/L. Thyroid test results were normal T4=10.2 ng/L and TSH=1.76 mIU/L. A brain scan has showed an empty sella turcica. Despite the unchanged levels of prolactinemia, the evolution under dopaminergic 5 mg/D has been marked by the occurrence of a pregnancy with persistent moderate hyperprolactinemia in the postpartum.

The patient has had menopause at the age of 47, with elevated gonadotrophins FSH=78 mIU/mL, LH=33 mIU/mL and estradiol: 35 pg/mL. Chromatography has showed a predominance of the macroprolactin form with: Prolactin monomer at 4.8%, Big Prolactin at 5% and Big Big Prolactin at 83%, thus stopping bromocriptine.

Discussion

We report a case of a patient with an association of empty sella Syndrome and macroprolactinemia.

The clinical picture may be completely asymptomatic [2] or mildly symptomatic in 22-46% of cases as in our observation [3].

Furthermore, the macroprolactinemia has been raised in our perception ahead of the non-functional character of hyperprolactinemia evidenced by the occurrence of pregnancy and after the menopause, although hyperprolactinemia has persisted which seems insensitive to bromocriptine [4], suggesting its non-functional character. Andersen et al. have as well evoked a case of a female patient, in whom a pregnancy occurred [5], with macroprolactinemia. The frequency of macroprolactinemia in pregnancy has been assessed by Hattori et al; over 109 pregnant women, 3 (2.9%) of them have had a macroprolactinemia [6].

Several dosing methods serve to diagnose macroprolactinemia [7]. In our case, the diagnosis has been confirmed by Gel permeation chromatography, which remains the method of choice for its detection [8,9].

Macroprolactinemia is a common cause of hyperprolactinemia [10], but its research is not systematic [4]. According to two studies on 1225 [3] and 2089 [11] blood samples, macroprolactinemia frequencies have

been estimated by 26% and 22% respectively. In another study realized by Alfonso A. and al on 40 patients with hyperprolactinemia, 18 (45%) have had macroprolactinemia [12].

Macroprolactinemia is usually isolated [13], constituting the diagnosis of exclusion after a negative etiological investigation [2,10]. The etiological research requires clinical, biological and radiological investigations including MRI [14], which objectified the empty sella in our patient.

The particularity of our case is that, it is associated with a common cause of hyperprolactinemia which is the empty sella syndrome [15]. This association has not been described; however associations with a prolactinoma are possible. Mounier et al. have conducted a study on patients with macroprolactinemia, with whom we have discovered a micro-pituitary adenoma associated [16].

Macroprolactinemia reported during the Prolactinoma can reach up to 76% of the secreted prolactin. It is in fact composed of the complex monomer prolactin and circulating immunoglobulin G [17].

The discovery of a macroprolactinemia may have an important clinical and therapeutic impact [1,18], formerly neglected [10], avoiding the dopaminergic treatment led on our patient without interest for many years [4]. Several studies recommend systematic prolactin test [4,10,12,19].

The long-term assessment without treatment seems favorable [20].

Conclusion

Our observation suggests that macroprolactinemia can be associated with conventional etiologies of moderate hyperprolactinemia as the empty sella syndrome. Its detection would prevent the use of dopaminergic therapy.

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