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Williams-Beuren Syndrome: About A Case

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Abstract: Williams-Beuren syndrome is a rare genetic disease with an incidence of 1 / 200000, characterized by evocative facial dysmorphism, cardiac malformations, psycho-motor retardation, specific cognitive and behavioral profile and impairment endocrine. Its treatment is symptomatic so that its management is multidisciplinary. We report a case of Williams-Beuren syndrome revealed by stunting.
Keywords: Williams-Beuren syndrome, growth retardation, microdeletion of chromosome region q11.23.

INTRODUCTION

Williams-Beuren syndrome (SWB) is a developmental anomaly, most often sporadic, due to a micro-deletion of the chromosomal region 7q11.23 [1]. The latter causes the loss of an allele of 26 to 28 genes, including that of elastin and other genes involved in hypercalcemia, stunting, intellectual disability and behavioral disorders. It is not visible on a standard karyotype, but diagnosed by Fluorescent in Situ Hybridization of the SWB specific region [2].

Clinical recognition is not always easy as it is a rare condition with some clinical variability between patients and age. As a result, the diagnosis is exceptionally made during the antenatal period outside of a context of family history, in front of the accidental discovery on prenatal ultrasound of the association of cardiopathy and intrauterine growth retardation [3, 4].

In childhood, this syndrome is suspected in association with congenital heart disease, such as supravalvular aortic stenosis, stenosis of the branches of the pulmonary artery; retarded psychomotor development, characteristic facial dysmorphia and specific cognitive and behavioral profile [5, 6].

CASE REPORT

This is a man, aged 17 and 6 months, from a non-consanguineous marriage, consulting for stunting and weight-loss. These antecedents note: neonatal suffering, with a low birth weight - 2300g-, difficulties in feeding with minimal weight gain; a slightly narrowed stenosis of the pulmonary valve with right ventricular hypertrophy revealed by endocarditis at the age of two years and a half having regressed spontaneously. An amblyopia discovered at the age of 5, a bilateral cryptorchidism operated at the age of 3, and a dorsal scoliosis appeared for a month.

The anamnesis noted a momentary visio-spatial benchmarks defect contrasting with correct language and soliloquy, without elements in favor of a thyropathy, nephropathy, celiac disease, or taking long-term corticotherapy, nor irradiation, or cranial trauma or similar cases in the family.

The clinical examination revealed a triangular face, an ogival palate, drooping full cheeks, a wide mouth with fleshy lips and an inverted lower lip, a bulbous tip, a clinodactyly, a ligamentous hyperlaxity, a dorsal scoliosis with stiffness articular (difficulty of transition from the supine position to the upright position).

A severe stunting delay "at less than 3 standard deviations for weight (31 kg) and at least 4 standard deviations for height (1.46m), a yard of 9cm, a stage of Tanner to P4 G4, without spots coffee with milk nor breath cardiac (figure-1,2).

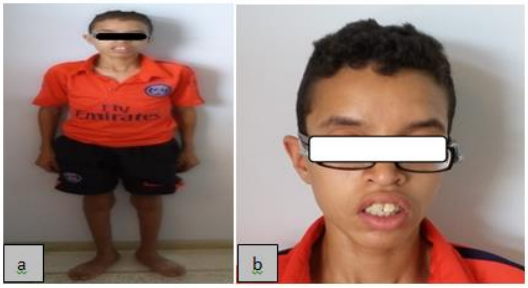

Fig-1: A) Small size and low weight with projected thorax aspect forward in relation to dorsal scoliosis. B) Triangular appearance of the face with a retracted nose and thick lips

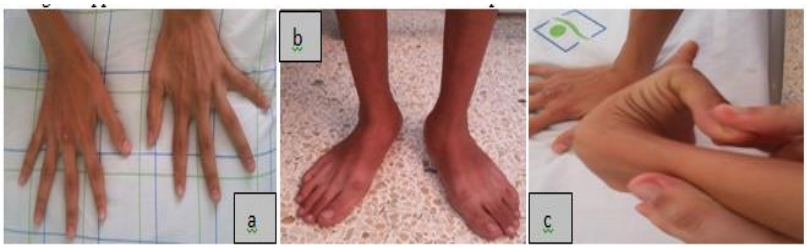

Fig-2: a, b. clinodactyly. c. ligamentous hyperlaxity

The biological assessment showed no abnormality (blood count, phospho-calcium, renal and hepatic balance, anti-transglutaminase Ab, anti-gliadin AC, IGF1 and pituitogram). The ECG and the trans-thoracic ultrasound were without normal. The hypothalamic-pituitary MRI performed returned without abnormality. The bone age is 14, with a Risser test rated at 4. Although the genetic study was not performed (not available at our level), the diagnosis of Williams Beuren syndrome was retained in front of facial dysmorphism and all malformative and cognitive-behavioral abnormalities.

DISCUSSIONS

Williams-Beuren syndrome is a rare genetic disease whose incidence is estimated at 1/20 000 births - with partial forms whose incidence is poorly known - due to a micro-deletion of chromosomal region 7q11. 23 which results in the loss of an allele of 26 to 28 genes, including that of elastin and other genes involved in hypercalcemia, stunting, intellectual disability and behavioral disorders [7]. This anomaly is sporadic most often diagnosed by Fluorescent In Situ Hybridization (FISH) of the specific SWB region, except in less than 1% of cases where microdeletion is not detected; this can be seen in the attenuated forms of this syndrome and the different so-called "allelic" diseases resulting from genetic mutations located in the critical region of SWB.

This syndrome should be suspected in association with congenital heart disease, such as supravalvular aortic stenosis, stenosis of the branches of the pulmonary artery, delayed psychomotor development, growth retardation, characteristic facial dysmorphia (cheeks full, upper-palpebral edema, wide mouth with fleshy lips and an inverted lower lip, a small bulbous tip and strabismus) [8, 9], a specific cognitive and behavioral profile characterized by great difficulties in the visual-spatial domain contrasting with a apparently correct language with psychiatric disorders of anxio-depressive type [10].

From the endocrine point of view, growth in patients with this syndrome has been studied, describing a stereotyped growth: the birth size is below normal and the deficit accelerates during the first two years up to nine years of age for girls and eleven for boys; this could result from low caloric intake, due to eating difficulties and significant metabolic needs, hypothyroidism which is present in 10% of cases [12, 13]. In addition, abnormalities in growth hormone have been eliminated in several series, except 3 cases reported in the literature [14, 15]. To all this is added the progressive stiffening of the joints and contractures in the knees, tibio-tarsal joints and hips, as well as the presence of kyphosis or lordosis. A peak of pubertal growth exists but is anticipated from one to two years; thereafter the size follows the 3rd percentile.

Skeletal maturation progresses according to age in both sexes. The growth of the head seems to follow the same pattern as the somatic growth. Hypercalciuria is associated in 30% of cases. Often there may be bilateral cryptorchidism; a pubertal advance and not an early puberty has been described in 50% of cases with rarely hypogonadism [16, 17], hypospermatozoidy, hypergonadotropism and a micro-penis can also be seen.

Our patient did not benefit from an exploration of the somatotropic axis because of the lack of means, subsequently assigned to psychiatry, rehabilitation session and he was sent to the neurosurgery for a management of his scoliosis. Genetic consultation is essential. The risk of recurrence is very low, if it is

verified that the genetic abnormality has appeared de novo in the patient. But an affected individual will have a 50% risk of transmitting the SWB to each of his children.

CONCLUSION

Williams-Beuren syndrome is a rare genetic disorder, characterized by evocative facial dysmorphism, cardiac malformations, psychomotor retardation, a specific cognitive and behavioral profile and endocrine disorders such as growth retardation, hypercalcemia, hypercalciuria, hypothyroidism and pubertal advance. His treatment is symptomatic that his care is multidisciplinary: general pediatrician, cardiopediatre, neuropediatric Ian, clinical geneticist, cardiologist, nephrologist, ophthalmologist, endocrinologist, orthopedist, and psychiatrist and rehabilitation physician. At the present state of our knowledge, because of the level of intellectual disability of SWB, not allowing, in the vast majority of cases, autonomy in adulthood and in the absence of curative treatment of this deficiency, the request for a medical termination of pregnancy is most often accepted.

REFERENCES

1. Pober BR. Williams-Beuren syndrome. N Engl J Med. 2010; 362(22):2142.
2. Riby DM, Porter MA. Williams Syndrome. Adv Child Dev Behav. 2010; 39:163-209.
3. Marcato L, Turolla L, Pompilii E, Dupont C, Gruchy N, De Toffol S, Bracalente G, Bacrot S, Troilo E, Tabet AC, Rossi S. Prenatal phenotype of Williams–Beuren syndrome and of the reciprocal duplication syndrome. Clinical case reports. 2014 Apr 1;2(2):25-32.
4. Popowski T, Vialard F, Leroy B, Bault JP, Molina-Gomes D. Williams-Beuren syndrome: the prenatal phenotype. American journal of obstetrics and gynecology. 2011 Dec 31;205(6):e6-8.
5. McKenna AJ, Craig B, Graham AN. Williams syndrome in an adult. Journal of cardiac surgery. 2010 May 1;25(3):339-42.
6. Sugayama SM, Leone C, Chauffaille MD, Okay TS, Kim C. Williams syndrome: Development of a new scoring system for clinical diagnosis. Clinics. 2007;62(2):159-66.
7. Van Hagen JM, Govaerts LC, de Coo IF, Gille JJ, Nieuwint AW, Madan K. Williams syndrome: new insights into genetic etiology, pathogenesis and clinical aspects. Nederlands tijdschrift voor geneeskunde. 2001 Mar;145(9):396-400.
8. Bedeschi MF, Bianchi V, Colli AM, Natacci F, Cereda A, Milani D, Maitz S, Lalatta F, Selicorni A. Clinical follow-up of young adults affected by Williams syndrome: Experience of 45 Italian patients. American Journal of Medical Genetics Part A. 2011 Feb 1;155(2):353-9.
9. Cherniske EM, Carpenter TO, Klaiman C, Young E, Bregman J, Insogna K, Schultz RT, Pober BR. Multisystem study of 20 older adults with Williams syndrome. American journal of medical genetics Part A. 2004 Dec 15;131(3):255-64.
10. Binelli C, Subirà S, Batalla A, Muñiz A, Sugranyés G, Crippa JA, Farré M, Pérez-Jurado L, Martín-Santos R. Common and distinct neural correlates of facial emotion processing in social anxiety disorder and Williams syndrome: A systematic review and voxel-based meta-analysis of functional resonance imaging studies. Neuropsychologia. 2014 Nov 30;64:205-17.
11. Stagi S, Bindi G, Neri AS, Lapi E, Losi S, Jenuso R, Salti R, Chiarelli F. Thyroid function and morphology in patients affected by Williams syndrome. Clinical endocrinology. 2005 Oct 1;63(4):456-60.
12. Cambiaso P, Orazi C, Digilio MC, Loche S, Capolino R, Tozzi A, Faedda A, Cappa M. Thyroid morphology and subclinical hypothyroidism in children and adolescents with Williams syndrome. The Journal of pediatrics. 2007 Jan 31;150(1):62-5.
13. Xekouki P, Fryssira H, Maniati-Christidi M, Amenta S, Karavitakis EM, Kanaka-Gantenbein C, Dacou-Voutetakis C. Growth hormone deficiency in a child with Williams-Beuren syndrome. The response to growth hormone therapy. Journal of Pediatric Endocrinology and Metabolism. 2005;18(2):205-8.
14. Bahadori B, Uitz E, Tonninger-Bahadori K, Moghadasian MH. Successful treatment of a morbidly obese and growth-retarded adolescent with Williams-Beuren Syndrome by combining the medication of growth hormone and sibutramine. Singapore medical journal. 2008 Jan;49(1):e15-6.
15. Kuijpers GM, De Vroede M, Knol HE, Jansen M. Growth hormone treatment in a child with Williams-Beuren syndrome: a case report. European journal of pediatrics. 1999 May 7;158(6):451-4.
16. Cherniske EM, Sadler LS, Schwartz D, Carpenter TO, Pober BR. Early puberty in Williams syndrome. Clinical dysmorphology. 1999 Apr;8(2):117-21.
17. Douchi T, Maruta K, Kuwahata R, Nagata Y. Precocious puberty in a Williams syndrome patient. Obstetrics & Gynecology. 1999 Nov 1;94(5):861.