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Family Megaosophagus: About A Family

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1. Abstract

1.1. Introduction: Megaesophagus is a motor disease of the esophagus, defined by loss of peristalsis of the esophageal body, hypertonia, and defective relaxation of the Lower Esophageal Sphincter (LES). Degenerative, autoimmune and infectious factors are possible etiologies. In rare cases, it can be familial. We report the case of 2 sisters and their great-grandfather.

1.2. Observations: They are 2 sisters, members of 3 siblings, from a first degree consanguineous marriage. In the antecedents, there was a notion of megaesophagus in the great-grandfather. Dysphagia associated with weight loss were the mode of revelation in both cases. The examination found in the 2 sisters an advanced state of undernutrition as well as maxillary prognathism. The remainder of the physical examination was unremarkable.

Both sisters were diagnosed at age 19. The esophageal manometry confirmed the diagnosis by objectifying an aperistalsis of the esophageal body with hypertonia and defective relaxation of the SIO. The 2 patients benefited from 2 sessions of pneumatic dilation spaced for each of her 6 years with good progress.

1.3. Conclusion: In all cases of megaesophagus, a family history must be carefully collected so as not to overlook a hereditary form, to allow family screening and to prevent complications early.

2. Introduction

Megaesophagus is a motor disease of the esophagus, defined by loss of peristalsis of the body of the esophagus, hypertonia, and defective relaxation of the Lower Esophageal Sphincter (LES) [1]. Degenerative, autoimmune and infectious factors are possible etiologies [2]. In rare cases, it may be familial or part of a syndrome which suggests that the megaesophagus is an inherited disorder [2]. We report the case of two sisters and their great-grandfather.

3. Observations

They are two sisters, members of three siblings, from a first degree consanguineous marriage. In the antecedents, there was a notion of megaesophagus in the great-grandfather. Functional dysphagia (low, paradoxical, intermittent and capricious) associated with weight loss were the mode of revelation in both cases. The examination found in the two sisters a state of malnutrition with a body mass index of 16 kg /m^2 as well as a maxillary prognathism with a maxilla more protuberant than the mandible, projected forward in relation to the "vertical" going from the forehead to nose. The remainder of the physical examination was unremarkable. In both sisters, the diagnosis of megaesophagus was established at the age of 19 with a diagnostic delay of one year. The esophageal-duodenal endoscopy showed an enlarged esophagus with food residues as well as a sign of rebound and allowed the elimination of an organic cause. Esophageal manometry confirmed the diagnosis by objectifying an aperistalsis of the esophageal body with defective relaxation of the SIO and hypertonia. Both patients underwent a first session of pneumatic dilation. The evolution was marked six years later, by the occurrence of a relapse which required a 2nd session of pneumatic dilation marked by a good evolution.

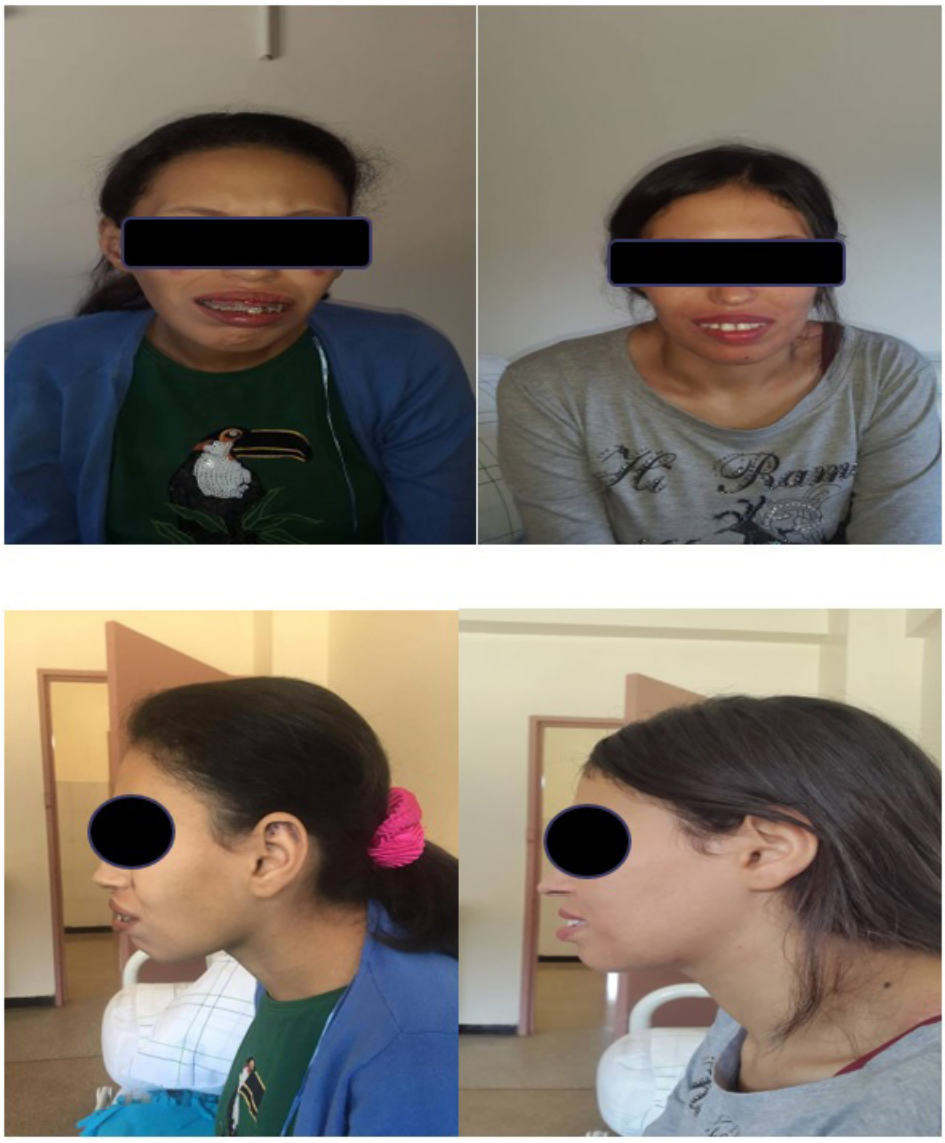

Figure 1: Photos of the 2 sisters illustrating maxillary prognathism

4. Discussion

Megaesophagus is rare, with an estimated incidence of around one per 100,000 inhabitants per year [3]. It is also rare in children, with only 2% of cases before the age of 6 [4]. Few cases of familial megaesophagus have been reported [5]. A high degree of inbreeding in the parents of affected children existed, suggesting autosomal recessive inheritance [6]. Very few cases of autosomal dominant patterns have been suggested [7].

However, as many cases start in adulthood, with only 5% progressing in childhood [8], nutritional and environmental factors must play an important role in the manifestation of the disease [9]. Several hypotheses have been suggested in the literature.

The polymorphism of certain genes (IL23R, NO-synthase (NOS), VIPR1 and PTPN22) appears to be involved in the development of achalasia as shown by some studies [10].

The IL10 promoter GCC haplotype has also been described as being associated with the development of idiopathic megaesophagus [11].

A 2002 study investigated the level of circulating myenteric antiplexus autoantibodies and HLA DQA1 and DQB1 alleles in achalatic patients and healthy volunteers (A total of 92 patients diagnosed with achalasia and two control groups with 275 subjects healthy were studied for HLA typing and 40 for the determination of autoantibodies) and had demonstrated that autoantibodies directed against the Auerbach's plexus were revealed in all women and 66.7% of men with idiopathic achalasia and of DQA1 × 0103 and DQB1 × 0603-alleles [12].

Regarding our 2 patients, despite the first degree consanguinity found in the parents, no genetic study was carried out. Different syndromes also include achalasia in their symptomatology [5]. Klein-Waardenburg syndrome is an autosomal dominant oculo-dermato-auditory malformation with variable expressivity associating in its most typical form canthal dystopia, enlargement of the base of the nose, pigmentation disorders and sometimes sensorineural deafness [13]. The possible association of this genetically determined disorder with certain other diseases, such as achalasia, Hirschsprung's disease or

immunodeficiency has been discussed [14]. Triple A syndrome or Allgrove syndrome is a very rare multi systemic disease characterized by adrenal insufficiency with isolated glucocorticoid deficiency mainly although an abnormality of mineralocorticoid function has also been reported, achalasia, alacrymia, autonomic dysfunction and neurodegeneration [15].

The disease is caused by mutations in the AAAS gene (12q13), encoding the nucleoporin ALADIN [16]. The c.1331 + 1G> A mutation is one of the most common described in North Africa, particularly in Tunisia, Algeria, Libya and Morocco [17]. This syndrome is transmitted in an autosomal recessive fashion, so there is a 25% risk of recurrence for parents with an affected child [16]. It usually occurs in the first decade of life, but cases of late onset in adulthood have been reported [18].

Achalasia has also been described in association with microcephaly and mental retardation in one family [19] and with ataxia, optic atrophy and mental retardation in another [15].

These are clinically different 3A subtypes [15]. A case of a patient with Marfan syndrome presenting with achalasia of the esophagus has also been described in the literature [20].

A CRLF1-related disorder should be considered in early achalasia, even if other symptoms related to cold-induced sweating syndrome or cr availability syndrome are lacking [21].

The incidence of achalasia is significantly higher in children with Rozycki syndrome [2] which is a rare, autosomal recessive syndrome associating sensorineural deafness, short stature, vitiligo and neuropathic muscular dystrophy [22] and Pierre-Robin syndrome [2] which combines retrognathism, glossoptosis and posterior median velocipal cleft [23].

The risk of achalasia is also increased in children with Down syndrome (Figure 1).

About 75% of children with Down's syndrome suffer from gastrointestinal illness and 2% develop achalasia [24]. No clinical finding pointing to one of these syndromes was made in the 2 sisters. In addition, the existence of maxillary prognathism in them could argue in favor of a syndromic origin.

5. Conclusion

In all cases of megaesophagus, it is important to carefully collect the family history so as not to overlook a hereditary form, to allow family screening and to prevent complications early.

An autosomal recessive mode of inheritance is the most probable according to the data in the literature. More genetic studies will be needed to accurately determine the mode of inheritance and the genes involved.

References

1. Mouna H, Imane B, Mustapha EIB, Wafae E, Zahra AF, Rajae A, et al. Megaoesophage idiopathique: notre propre experience. P107 JFHOD.
2. Motamed F, Modaresi V, Eftekhari K. Familial Achalasia, a Case Report. Iran J Pediatr. 2010; 20: 233-6.
3. Maim A. A ten-year report of operated achalasia of the oesophagus. Gastroenterologia. 1956; 86: 208-10.
4. Sing H, Gupta HL, Sethi RS. Cardiac achalasia in childhood. Postgrad Med. 1969; 45: 327-35.
5. Vailati C, Mazzoleni G, Testoni PA, Passaretti S. An Italian family with inherited achalasia. Digestive and Liver Disease. 2013; 45: 524–25.
6. Kaar TK. Familial infantile oesophageal achalasia. Arch Dis Child. 1991; 66: 1353-4
7. Gonzalez GG, Guatibonza YP, Zarante I. Achalasia familiar: report of a family with an autosomal dominant pattern of inherence. Diseases of the Esophagus. 2011; 24: 1–4.
8. Rao SP, Kumar V, Rao PLNG. Achalasia in siblings in infancy. Indian J Pediatr. 2001; 68: 687-888.
9. Frieling T, Berges W, Borchard F, Lubke H J, Enck P, Wienbeck M, et al. Family occurrence of achalasia and diffuse spasm of the oesophagus. Gut. 1988; 29: 1595-602.
10. Evsyutina YV, Trukhmanov AS, Ivashkin VT. Family case of achalasia cardia: Case report and review of literature. World J Gastroenterol. 2014; 20: 1114-8.
11. Nunez C, Gonzalez MAG, Santiago JL, Benito MS, Marine F, de la Concha EG, et al. Association of IL10 promoter polymorphisms with idiopathic achalasia. Hum Immunol. 2011; 72: 749-52.
12. de-Leon RA, Mendoza J, Mantilla CS, Fernandez AM, de-la-Serna JP, Gonzalez VA, et al. Myenteric antiplexus antibodies and class II HLA in achalasia. Dig Dis Sci. 2002; 47: 15-9.
13. Mouriaux F, Hamedani M, Hurbli T, Uteza Y, Oubaaz A, Morax S, et al. Le syndrome de Waardenburg. Journal Français d'Ophtalmologie. 1999; 22: 799.
14. Piechowiak H, Wasmer C, Gobel FD. Klein-Waardenburg syndrome. Report of 3 cases in a family with a review of the literature. Laryngol Rhinol Otol (Stuttg). 1985; 64: 194-7.
15. Ehrich E. Familial achalasia associated with adrenocortical insufficiency, alacrima, and neurological abnormalities. Am J Med Genet. 1987; 26: 637-44.
16. ORPHA:869.
17. Berrani H, Meskini T, Zerkaoui M, Merhni H, Ettair S, Sefiani A, et al. Clinical and molecular report of c.1331 + 1G > A mutation of the AAAS gene in a Moroccan family with Allgrove syndrome: a case report. BMC Pediatrics. 2018; 18: 184.
18. Thomas J, Subramanyam S, Vijayaraghavan S, Bhaskar E. Late onset adrenal insufficiency and achalasia in Allgrove syndrome. BMJ Case Rep. 2015; 2015: 2014208900.
19. Khalifa MM. Familial achalasia, microcephaly, and mental retardation. Case report and review of literature. Clin Pediatr (Phila). 1988; 27: 509-12.

20. Rapeport K, Bremner CG. Marfan's syndrome presenting with achalasia of the oesophagus. A case report. S Afr Med J. 1981; 59: 766-8.

21. Busch A, Zarkovic M, Lowe C, Jankofsky M, Ganschow R, Buers I, et al. Mutations in CRLF1 cause familial achalasia. Clin Genet. 2017: 92: 104-108.

22. Geffner ME, Lippe BM, Kaplan SA. Selective ACTH insensitivity, achalasia, and alacrima: A multisystem disorder presenting in childhood. Pediatr Res. 1983; 17: 532-6.

23. ORPHA:718.

24. Moore SW. Down syndrome and the enteric nervous system. Pediatr Surg Int. 2008; 24: 873-83.