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MARFAN'S SYNDROME: CASE REPORT AND LITERATURE REVIEW
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P. W. ATIPO-TSIBA

SUMMARY

Marfan's syndrome is a rare genetic disease, autosomal dominant. The most affected organs are eyes (myopia, subluxation of the lens); skeleton (hyperlaxity, arachnodactyly, scoliosis, dolichostenomelia) and cardiovascular system (aortic pathology). The severity of this disease is related to its cardiovascular damage. We proposed to carry out a review of the literature from the first case reported in the ophthalmology department of the University Hospital of Brazzaville.

INTRODUCTION

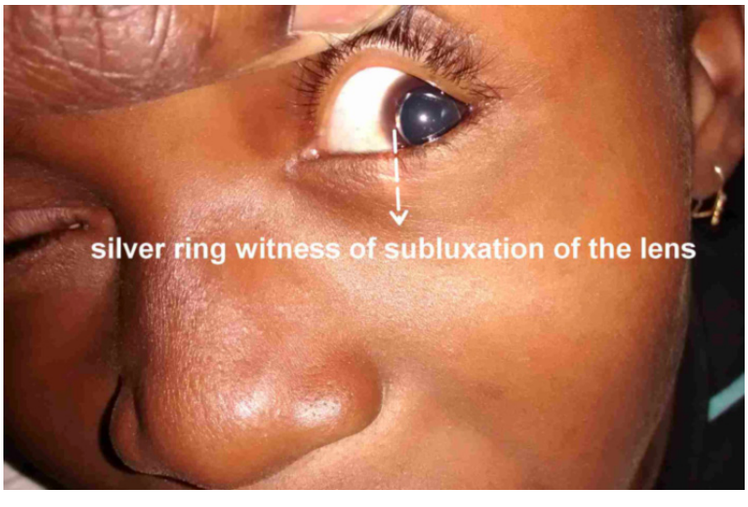
Marfan's syndrome is a rare genetic disease, with an autosomal dominant transmission.It is duetoconnective tissueinjury, in relation toan anomalyoffibrillin, which is a component of elastin (1-5). This disease affects all organs of the body, with very variable degrees of clinical manifestations. The most affected organs are eyes, the cardiovascular system and the skeleton (1- 4). We proposed to carry out a review of the literature from the first case reported in the ophthalmology department of the University Hospital of Brazzaville.

CASE REPORT

An eight year-old-girl was seen for bilateral visual blur. At the age of three she was already suffering from myopia, -5 diopters (D). As soon as she was educated, a new pair of glasses was prescribed to her every nine months due to a rapid progression of this myopia, which reached the value of -12 D when she was seven years old. Furthermore, parents noted the exceptional flexibility of the joints of their child, as well as its large size compared to other children of the same age in the family.

On admission,the reviewnoted, on both sides,high myopia - 18D, an inferonasal subluxationof the lens (Figure 1). The fundus was normal.

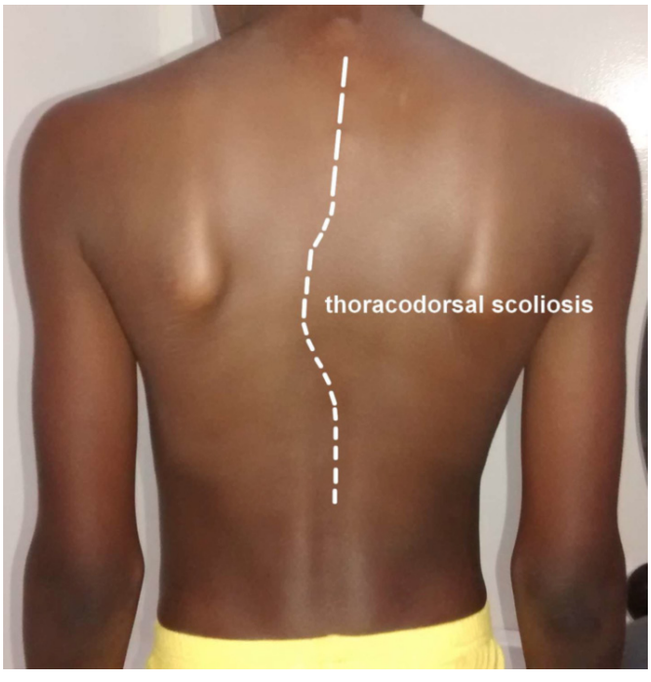
Figure 1



In general terms, we note dadolichostenomelia, thinness (Size =1.40 m, weight = 25 kg for a Body Mass Index of 12.75), anarachnodactyly (Figure 2), thoracodorsalscoliosis (Figure 3), a large upper limbs. Cardiovascular examination was normal.

Figure 2

Figure 3



Surgery (lensectomy) was carried out on both sides. The post-operative period was simple. A month after this intervention,visual acuity was 10/10 on both sides with a correction of - 1D.

The most recent cardiovascular evaluation was normal.

LITERATURE REVIEW

Marfan's syndrome is associated with a mutation in the fibrill in-1 gene (FBN1), sometimes appearing from the birth with obvious signs and rapid progression of the disease. The geneis located on the chromosome 15 (5). It was described nearly 1000 different mutations in this gene causing more or less severe disease (6).

There also seems to increase the activity of TGF-β (Transforming Growth Factor), whose blood test shows high levels in case of Marfan's syndrome, which presents a potential interest as a test diagnosis (7, 8). A mutation in the gene TGFBR2 coding for the receptor of the TGF-β, gives a related syndrome, sometimes called << Marfan syndrome type 2 >>, the evolution and prognosis is close to the classic syndrome (9, 10). Marfan's syndrome is a rare genetic disease, its prevalence is 1 / 5000(11). However, in a third of cases are spontaneous mutations, not inherited (12).

Its manifests with different degrees of severity among individuals. The classic symptoms interested three organs: eyes, skeletal and cardiovascular system (1, 2, 4-7).

The most frequent ocular damage are: subluxation of the lens, cataract, myopia, glaucoma and retinal detachment. These eye lesions will benefit from standard treatments, often with satisfactory functional results (2, 8, 11).

The great size, arachnodactyly, scoliosis and dolichostenomelia are the main skeletal damage. However pectus carinatum (the costosternal bone push the sternum forward) and pectus excavatum (the costosternal bones grow back sternum) are not uncommon (1, 2, 4-7, 13). Scoliosis istypicallythoracodorsalmean curvature with lordosisorkyphosis (sometimes increased after pregnancy). The upper cervical instability and spondylolisthesis are also described. The lumbosacral dural ectasia would reflect the effect of gravity (5-7). The higher members aredisproportionate relative to the trunk(dolichostenomelia) (13). Aneurisms and dissections of aorta make gravity of Marfan'ssyndrome (4). Other serious but rare complications can occur: heart failure in mitral insufficiency, heart rhythm disorders (5, 11). Apart from any valve disease, electrocardiogram (ECG) often shows nonspecific abnormalities. Original rhythm of ventricular disorders can cause sudden death (14).

β-blockers cushion the impact of systolic flow on the weakened media of the aorta. They reduce the progression of aortic dilatation and may reduce the risk of complications although this is not proven (15 - 17). Losartan, an antagonist of the angiotensin II receptor seems to be promising in the animal model of the disease since it inhibits TGF-β (18). In 1968, Hugh Bentall made the first surgical intervention that bears his name(19). It consists of a replacement of the ascending aorta and aortic valve by a valve tube, with reimplantation of the coronary arteries. The aortic prosthesis is proposed when the aortic diameter is 5 cm. The operation is well tolerated and improves the life expectancy of patients with Marfan. It is possible to associate, at the same time, the chiurgical treatment of pectus excavatum or carinatum (20, 21).

The practice of a static sport (bodybuilding) or an endurance sport at a high level is not recommended (5).

CONCLUSION

Once the diagnosis of Marfan's syndrome posed, the ophthalmologist must never forget the need for cardiovascular monitoring for life of his patient, because the mortality of this disease is related to its cardiovascular complications.

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