Syndrome des anticorps antiphospholipides congénital révélé par des thromboses disséminées et déshydratation hypernatrémique

Congenital antiphospholipid syndrome revealed by neonatal catastrophic occlusion syndrome contemporary to hypernatremic dehydration

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RÉSUMÉ

Nous rapportons l'observation d'un nouveau-né de 8 jours présentant une déshydratation hypernatrémique, une gangrène digitale distale, des convulsions, une néphromégalie bilatérale extensive et une hématurie. Les examens radiologiques ont montré des thromboses veineuses rénales bilatérales et d'importants infarctus cérébraux bilatéraux. Les investigations ont révélé des titres d'IgG anti-cardiolipides positifs chez le bébé et sa mère. La déshydratation hypernatrémique était le principal facteur de risque additif reconnu chez ce nouveau-né. Les autres facteurs de risque de thromboses néonatales ont été exclus. Cette présentation est exceptionnelle et souvent mortelle en période néonatale. Les séquelles sévères étaient inévitables chez notre patient car le diagnostic n'était pas posé avant la grossesse. Une prise en charge précoce et spécifique des nouveau-nés de mères ayant un syndrome des anticorps antiphospholipides connu est indispensable afin de réduire le risque de complications.

ABSTRACT

We report the case of an 8 day-old newborn who presented with hypernatremic dehydration, distal digital gangrene, seizures, extensive bilateral nephromegaly and hematuria. Radiological exams proved the existence of bilateral renal venous thromboses and extensive bilateral cerebral infarctions. Investigations revealed positive anticardiolipin IgG titers of the baby and his mother. Hypernatremic dehydration was the major additive risk factor recognized in this infant. Other risk factors of neonatal thromboses were ruled out. This unusual catastrophic presentation is exceptional and often lethal. To our knowledge, it is the second case of "Catastrophic Antiphospholipid syndrome" described in newborns. Severe sequelae were inevitable in our patient implying the necessity of early and specific management of at risk infants born to mothers affected with the antiphospholipid syndrome.

Mots clés : Syndrome des anticorps anti phospholipides- Déshydratation hypernatrémique- Thromboses- Nouveau-né.

Keywords : Antiphospholipid syndrome – Hypernatremic dehydration – Thrombosis – Newborn – Catastrophic occlusion syndrome.

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INTRODUCTION :

The antiphospholipid syndrome (APS) is a thrombotic disorder characterized by recurrent arterial or venous thromboses or pregnancy loss and the presence of circulating antibodies against phospholipids [1]. Although, babies born to mothers with APS are at risk of neonatal complications related to transplacental passage of anti-Cardiolipin antibodies (aCL). Few authors reported neonatal complications such as vitreous hemorrhages, malformations and isolated thrombotic incidents [2]. The Catastrophic occlusion syndrome or the Catastrophic APS was described in adults as a severe condition, marked by extensive micro-vascular thromboses resulting in multiorgan failure [3]. Few cases of catastrophic APS were reported in pediatric patients [4].

We report an unusual case of catastrophic APS in a newborn whose mother was asymptomatic and in whom the dramatic thrombotic cascade was prompted by hypernatremic dehydration.

CASE REPORT

A full term baby girl (Birth weight: 2800 g) was born normally to a penta-gravida healthy mother with the medical history of one unexplained stillbirth at 20 weeks' gestation and a mild congenital deafness. The infant presented at 8 day-old (weight: 2350 Kg) with severe hemorrhagic signs, dehydration, distal digital gangrene, two enlarged kidneys and seizures.

The brain ultrasound showed bilateral diffuse hyperechogenic lesions in the sylvian territory with right frontal large hypoechogenic lesion (Fig. 1).

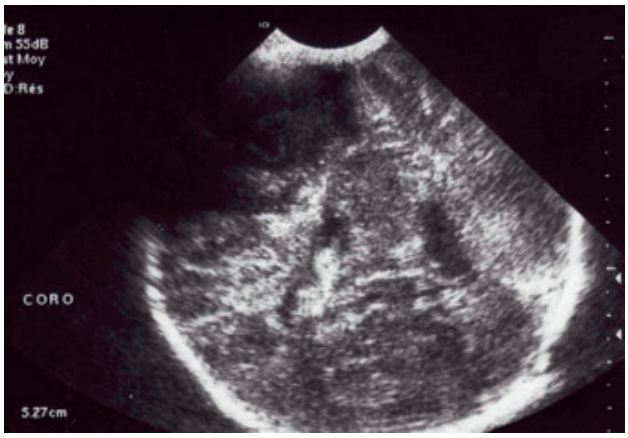

Figure 1 : Coronal ultrasound scan on day 3 showing bilateral diffuse hyperechogenic lesions in the territory of the sylvian arteries associated to a large hypoechogenic frontal lesion.

Doppler ultrasound of kidneys on day 3 revealed extensive thrombotic lesions of both kidneys and the presence of reversed diastolic flow patterns on Doppler of the renal arteries. Ultrasonography scan of the liver showed a thrombus of the inferior vena cava. The condition of the baby impeded further early investigations. The brain computed tomography scan performed three months later showed bilateral ischemic lesions in the territory of the middle cerebral arteries (Fig. 2).

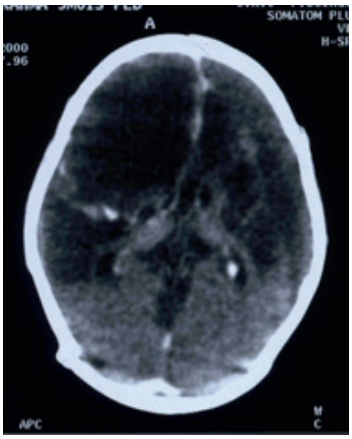

Figure 2 : Axial CT-Scan of the head with contrast enhancement on 3 months: Bilateral large hypodense lesions of the middle cerebral arteries

The biological findings were as follows: hemoglobin level:17 g/dl; hematocrit : 55%; White blood cell count : 17x 109/l; platelet count : 37x109/l ; serum electrolyte: sodium : 168 meq/l ; potassium : 5.5 meq/l ; chloride : 122,4 meq/l ; glycaemia: 18.5 mmol/l; azotemia : 54 mmol/l ; arterial pH : 7.18 ; Prothrombin time : 66%; Cephalin activated time : 30 seconds(control: 36 seconds); fibrinogen level :1.9 g/l ; C-reactive protein: 111.7 g/l. Lumbar puncture analyses were normal. The bacteriological samples were negative.

The antithrombotic proteins' levels: protein C: 50%, protein S: 55%, antithrombin III: 76%. The functional assay of activated protein C resistance was negative. A lupus anticoagulant (LAC) was detected on hematological testing and the aCL titer was positive at 60 UGPL/ml (normal values: IgG ≤ 10 UGPL/ml and IgM ≤ 10 UMPL/ml). LAC and aCL titers of the mother were also positive (IgG: 28 UGPL/ml and IgM: 6 UMPL/ml). The mother was asymptomatic and had no anti-DNA or antinuclear antibodies.

Our patient was treated with supportive measures and heparin. She survived with severe sequelae: amputation of fingers and toes, a delayed psychomotor development, blindness, left hemiparesis and a definitely damaged left kidney which was absent at radioisotope imaging performed at 3 months.

The evolution of titers of aCL and LAC was as follows: at 9 months, No aCL was detected in the infant and the LAC was positive in the mother; at 13 months: aCL was still negative in the infant and positive at 35 UGPL/ml in the mother.

DISCUSSION

Our case-report fulfilled the description of the catastrophic antiphospholipid syndrome as reported in severe cases of adult APS [5]. There are only few cases of neonatal catastrophic APS published in the

literature [6, 7]. In fact, Tabbut and al described the case of a premature newborn whose mother was followed up for an APS and treated with prednisone and aspirin. [8]. He had three separate thrombotic episodes in the first three weeks of life: a middle cerebral artery thrombo-embolism, an aortic thrombosis and a sagittal sinus thrombosis. But the demonstration of a CL in the baby was consistently negative and authors hadn't recognized their case as "Catastrophic APS". Other rare cases of isolated thrombotic accidents in infants of APS mothers were also reported [9]. Our patient had no familial medical history indicative of thrombotic risks. Hypernatremic dehydration was the major risk factor recognized initially in this infant. Infection and inherited disorders of coagulation were ruled out. Hypernatremia may be due to mainly decreased fluid intake as well as excessive fluid loss or excessive sodium intake. In our case, hypernatremia cause was not clear, since the baby was on formula feeding few days before dehydration. This could suggest an inadequate formula intake. Hypernatremic dehydration is a serious condition prompting complications such as seizures, multiple cerebrovascular accidents, peripheral thromboses involving the extremities, renal vein thromboses, necrotizing enterocolitis and disseminated intravascular coagulation [10]. The thorough hematological investigations allowed the diagnosis of a "congenital APS" in our patient. In fact, aCL levels raised and remained high untill 6 months after birth and more than one year in the mother. This supports the diagnosis of primitive APS in the mother and an acquired APS in the child, presenting as a catastrophic syndrome. The mother's IgG titers were lower than the infant titers. It might be related, either to aCL titers' fluctuation in mother's sera or to an apparent increase of infant's aCL titers caused by reduction of extra cellular body fluid in relation to the dehydration. Hence the hypernatremic dehydration state seemed to be the precipitating thrombotic factor leading to an extensive thrombotic condition in our patient. Precipitating or "trigger" factors of catastrophic occlusion syndrome such as infection, trauma, surgical procedures or reduction in anticoagulant therapy have been advocated in 55% of APS adult patients. Our case is the illustration of a "congenital APS" defined as a neonatal transient APS acquired by in utero transfer of APL from an affected mother with APS . Our case report, unfortunately, showed how life threatening may be the association of high APL titers and hypernatremic dehydration. Hence we recommend special care for APS mothers' infants including adequate breast-feeding, weight monitoring and optimal hydration during the first month of life.

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