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Case Report

Venous Thrombosis as A Complication of Primary Nephrotic Syndrome

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Abstract

Introduction: Children suffering from nephrotic syndrome have an increased risk of arterial and venous thrombosis, depending on their location and extent, they can be life-threatening.

Objective: To describe a clinical case of complicated nephrotic syndrome with venous thrombosis.

Description: 5-year-old girl diagnosed with minimal change nephrotic syndrome diagnosed by renal biopsy presenting at 10 days consulta for pain and erythema on the right side of the neck of 24 hours of evolution.

Diagnosis: deep vein thrombosis in confluent yugulo right subclavian. It was performed or inter consultation with hematology and initiation or anticoagulation. At the 3rd month of the anticoagulant treatment, Doppler echo was performed with a control of the blood, which was normal.

Conclusion: Thrombotic complications, although they are usually rare in pediatric patients with nephrotic syndrome (approx. 20%), should be diagnosed early through the clinic, imaging studies and laboratory with dosage of antithrombin III, platelet count and fibrinogen, avoiding major complications. Prophylaxis with anticoagulants is discussed, it is of great importance to balance risks and benefits of this.

Keywords: Nephrotic Syndrome; Thrombosis; Thromboembolic Complications

Introduction

Nephrotic syndrome is characterized by massive proteinuria, hypoalbuminemia, and edema, accompanied by alterations in lipid metabolism.

Hypercoagulability is associated with this syndrome and is a known phenomenon, mainly due to abnormalities in most coagulation factors, platelet function and in the fibrinolytic system. Itis understood as the greatest predisposition to the formation of blood clots and is due to the loss of a low molecular weight protein like albumin, antithrombin III, consequently alter the coagulation factors, since these are the determinant of plasma antithrombin activity.

As a result, the risk of suffering from both arterial and venous thromboembolic complications is greater and depending on their location and extent, they can be life-threatening. Other factors that affect this picture are: vascular trauma from multiple punctures to obtain vascular access for the use of peripheral pathways and central catheters used for the passage of antibiotic medication, since infectious complications they are usually frequent in these children, and for the passage of intravenous albumin for the treatment

of refractory edema, among others. So subsequently, it is associated with hospitalizations and prolonged rest that these patients usually suffer. The use of diuretics to treat edema, dehydration, as well as the corticosteroid treatment they receive, are common factors that predispose to thrombotic episodes.

Objective

Describe a clinical case of a patient diagnosed with nephrotic syndrome associated with deep vein thrombosis as a complication.

Description

A 5-year-old girl, with a diagnosis of primary nephrotic syndrome, debut at 2 years and 10 months old, was treated with Corticoids for 12 weeks with good response, at one year presented or 3 relapses and started cyclophosphamide (160 mg/kg/life) but for persisting with frequent relapses when the corticosteroids decreased, it was assumed as a dependent corticosteroid and began treatment with Mycophenolate. Renal biopsy: nephropathy at minimal changes. 10 days posterioris to biopsy, consulta for pain and erythema on the right side of the neck of 24 hours of evolution.

At the physical examen painful and erythematous tumefaction is observed in the right-wing region of the neck, the peripheral pulses were present and were symmetrical. Peripheral edema was present with Godet 3/3. Rest of the normal physical exam.

- **Laboratorio:** GB 10200 (61NS/32L), Hb 14 mg/dl, Hematocrito 42%.
- **Urea:** 19 mg/dl,
- **Glucemia:** 79 mg.
- **Creatinina:** 0.49 mg/dl,
- **Albumina serica**: 1.56 mg/dl.
- **Coagulograma:** TP 113%, APTT 42%, TT 20.7 segundos, Antitrombina III 54% (80-120% normal).
- **Single Urine Sample:** Proteinuria: 18739 mg/l, creatininuria 206.8 mg/dl.
- **Urine Complete:** proteins +++, leukocytes 10-12/field, red blood cells 5/campo.

Doppler echo of neck vessels: Internal jugular vein, subclavian, right axillary and humeral with mobile echogenic particulate inside (venous smoke), decreased speed and loss of elasticity, external jugular vein thrombosis and parietal thickening of internal jugular vein, echogenic content, and decreased flow with "subtotal compression".

Diagnosis

deep vein thrombosis in confluent yugulo right subclavian.

It was performed or inter consultation with hematology and initiation or anticoagulation with low molecular weight heparin (LMWH) 1500 IU c/12hs. Posteriormente was made change to Acenocoumarol with initial dose of 2 mg, rising until adequate RIN was reached.

At the 3rd month of the anticoagulant treatment, Doppler echo was performed with a control of the blood, which was normal. After resolution of thrombosis, anticoagulant treatment was discontinued after 6 months, with normal antithrombin III values (96%) [1-7].

Conclusion

Thrombotic complications, in pediatric patients with nephrotic syndrome, occur in about 20%, and should be diagnosed early through the clinic, images studies, laboratory, dosage of antithrombin III, platelet count and fibrinogen, thus avoiding major complications. Prophylaxis with anticoagulants or antiplatelet agents is

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