



Inflammation and infection

Post operative visual loss after nephrectomy performed in lateral position in female patient with congenitally left blindness

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ARTICLE INFO

Keywords:

Post-operative blindness
Nephrectomy
Lateral position
Emphysematous pyelitis

ABSTRACT

Postoperative visual loss (POVL) after non-ocular surgery is relatively uncommon.

Patients undergoing spinal and cardiac surgery seems to be at the highest risk and ischemic optic Neuropathy was the most commonly diagnosed cause¹ POVL following urological procedures are rare, only a few cases were reported mainly in prone position.

Here, we present the first case of a patient with congenital left blindness having many risk factors of POVL who experienced this complication following a nephrectomy performed in the lateral position.

The aim of this case presentation is to know this complication in order to prevent or minimize its occurrence.

Introduction

Postoperative visual loss (POVL) after non ocular surgery is relatively uncommon. Patients undergoing spinal and cardiac surgery seem to be at the highest risk and ischemic optic Neuropathy was the most commonly diagnosed cause¹

POVL following urological procedures are rare, only few cases were reported.

Here, we present the first case of a patient with congenital left blindness having many risk factors of POVL who experienced this complication following a nephrectomy performed in the lateral position. In our patient, many factors and reasons for this serious complication could be suspicious.

Case history

A 60 years old female was referred to the emergency service for support of a septic shock due to left emphysematous pyelitis; and an open left nephrectomy was decided and made urgently after multidisciplinary meeting with intensive care and infectious disease teams. Our patient was born with a left blindness that was not explored; and she had history of medical-controlled diabetes, hypertension and dyslipidemia without previous surgery. Her family history was not contributory for eye diseases.

The preoperative blood tests showed anemia, hemoglobin was at 8,1 g/dl. Blood coagulation profile was within the normal limits; triglyceride and cholesterol levels were elevated.

A Left nephrectomy was performed under general anesthesia, in the lateral position, through an open retroperitoneal approach, with Total operating time (from opening to close of the wound) of 2 and half Hours. And almost 4 hours Total time for anesthesia. Intraoperative autologous blood transfusion of 4 units was initiated as per recommendation of anesthesia and ICU team perioperatively. No surgical complications were found. The blood loss was estimated at 200 mL. Mean cardiac frequency was 68 bpm, mean arterial blood pressure was 85 mmHg, and Patient developed Atrial Fibrillation in acute setting reverted to sinus rhythm.

Pain medication was given to the patient and Electrolyte balance and fluids were carefully monitored during and after the operation.

On the second day postoperatively, the patient reported having blurred vision with her right eye and gradually becoming completely invisible. Fundus examination and MRI examination were done. The fundus examination revealed: left eye old central corneal scarring. Bilateral quite & deep anterior chamber. bilateral cortical cataract, right eye relative afferent pupillary defect with very sluggish reaction. Left pupil reacting to light, regular and round.

Brain MRI showed Acute left cerebellar infarction of 7 mmm, with multiple focal ischemia in bilateral cerebral hemisphere. Intravenous

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<https://doi.org/10.1016/j.eucr.2020.101356>

Received 6 July 2020; Received in revised form 17 July 2020; Accepted 21 July 2020

Available online 25 July 2020

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steroid therapy was performed by the advice of ophthalmologists, unfortunately, the patient showed no improvement regard her vision during hospitalization and follow up later on.

Discussion

POVL of non-ocular surgery started to be described and reported in the literature since 1948 and were mainly concentrated in the spine surgery especially in the prone position and cardiac surgery.¹ Its actual prevalence remain unknown. Here we present a new case of a female patient who experienced POVL following nephrectomy performed in the lateral position.

Of the various causes of POVL, three main groups of pathologic entities have been identified that may be responsible for POVL ischemic optic neuropathy (ION), central retinal artery occlusion (CRAO) and cortical blindness.¹⁻⁴

POVL of non-ocular surgery are the most often associated with ION and CRAO. Ischemic optic neuropathies (IONs) consist primarily of two types: anterior ischemic optic neuropathy (AION) and posterior ischemic optic neuropathy (PION).^{1,5}

PION represents only 10% of the etiologies of optic nerve ischemia compared to Anterior Ischemic Optic Neuropathy (AION).^{1,5}

These two types of ION are clinically, etiologically, pathogenetically, and therapeutically distinct and different. Our case was diagnosed with PION.

Posterior Ischemic Optic Neuropathy (PION), also named retrobulbar optic neuropathy, is an acute optic neuropathy, leading to variable but sometimes profound vision loss primarily due to ischemia of the posterior segment of the optic nerve by a lack of perfusion.¹

Clinically, PION can manifest as acute and painless unilateral or bilateral vision loss.^{1,2} Vision loss usually disappears over hours but can get worse days to weeks. PIONs can occur at any age but are more common in the vasculo-pathic age group (after age 50) depending on the risk factors.⁵

PION comprises 3 types: arteritic PION, non-arteritic PION, and surgical PION as a complication of several systemic surgical procedures¹⁻⁴ various potential risk factor have been identified and included both

surgical and patient related risks. Surgical related risk factors are various, any general surgical procedure can cause perioperative PION, these risks include position especially the prone position have been proposed as a risk factor., duration of operation (6 h), prolonged intraoperative arterial hypotension, fluid overload, amount of blood lost, use of vasopressors, transfusion. Patient-related risk factors include anemia, hypotension and in cases of small vessel vascular disease secondary to systemic diseases such as diabetes mellitus, hypertension, or anecdotal causes like hemodialysis, carotid artery dissection, head injury or migraine, or all conditions that predispose to atherosclerotic disease.^{1,5}

Diagnosis of PION is a clinical diagnosis and is made by a process of exclusion.

As a treatment, an immediate introduction of intravenous and oral steroid therapy could be administered as an emergency.^{1,5}

Perioperative PION does not respond to steroid therapy, and vision loss is often severe bilateral and irreversible.^{1,3,5}

Declaration of Competing Interest

The authors have nothing to disclose.

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