

Case Report:

Sixth Cranial Nerve Palsy after Bilateral Orchidopexy

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Abstract

Background: Abducent nerve palsy is a very rare postoperative complication in non-ocular surgeries with general anesthesia. Being the longest cranial nerve making it more susceptible to injury.

Aim of Study: Documentation of postoperative idiopathic 6th cranial nerve palsy in non-ocular surgery.

Patient and Methods: Two years old infant was scheduled for bilateral orchidopexy. There is no history of any previous disease or illness. After inhalational induction of general anesthesia, iv cannulation, and endotracheal intubation Caudal block was administered. Surgery was performed without any abnormal events and the baby was extubated and transferred to recovery room fully conscious and full motor power, and then discharged to home in the same day. In the second day postoperatively, he developed squint in the Rt eye upon which neurological and ophthalmological examination revealed idiopathic Rt 6th cranial nerve palsy for conservative treatment.

Conclusion: Idiopathic Abducent nerve palsy rarely occurs after general anesthesia and may be due to temporary increase or decrease in intracranial pressure leading to nerve compression or traction respectively.

Key Words: 6th Cranial nerve palsy – General anesthesia – Orchidopexy.

Introduction

CRYPTORCHIDISM is a common genitourinary pathology defined as the failure of the testicles to descend into the scrotum during development. It should be surgically corrected to avoid significant consequences such as testicular atrophy, torsion, hernia, or malignancy [1].

Sixth nerve palsy (Abducens) is the most common ocular motor paralysis in adults and the second-most common in children. The abducens nerve

controls the lateral rectus muscle, which abducts the eye. And the affected eye turns medially [2]. Affection of sixth nerve may be Congenital or acquired due to trauma, infection, Intracranial tumor and Elevated or low intracranial pressure causes [3,4].

General anesthesia +/- caudal block remains the most widely accepted type of anesthesia in correction of undescended testicles. It is difficult to recommend regional anesthesia for pediatric penoscrotal procedures [5].

This case report presents a patient with abducens nerve palsy after bilateral orchidopexy surgery. Despite the uncommon nature of this type of complication, literature review of all cases related to this complication is included.

Patient and Methods

A 2 years old male baby with the diagnosis of bilateral undescended testis was admitted to the pediatric clinic in Kasr El-Ainy Hospitals in July 2021, and scheduled for bilateral orchidopexy.

Preoperatively the baby was alert good crying weighting 12kg. There was no past history of prematurity, birth problems, NICU stay nor other congenital anomalies.

The procedure and anesthesia plane of combined general and caudal anesthesia were explained to the mother and informed consent was obtained.

Upon arrival to OR standard monitor (ECG, NBP, Pulse oximetry) and Inhalational sevoflurane induction of anesthesia, endotracheal intubation was facilitated with non-cuffed tube (4.5 ID) and securing iv access by 24G cannula. Then the baby was held in lateral position and caudal block was performed under aseptic conditions using 8cc of 25% bupivacaine.

The operation took about 30 minutes uneventfully and the baby regained conscious, full motor

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power, extubated and transferred to the recovery room. Then was discharged with his mother to home at the same day.

In the 2nd day postoperatively, the mother noticed medial deviation of the Rt eye upon which she sought surgeon advice.

Neurological examination the baby was fully conscious, good activity, no history of convulsions, apart from squint in the Rt eye there was no other

sensory or motor affection. MRI brain was normal ophthalmological examination was performed, pupillary reflexes were intact, and no ptosis or lid retraction was found. Ocular movement examination revealed limited abduction of right eye with diagnosis of isolated RT 6th cranial nerve palsy for conservative treatment.

The baby recovered 3 months later with no residual affection.

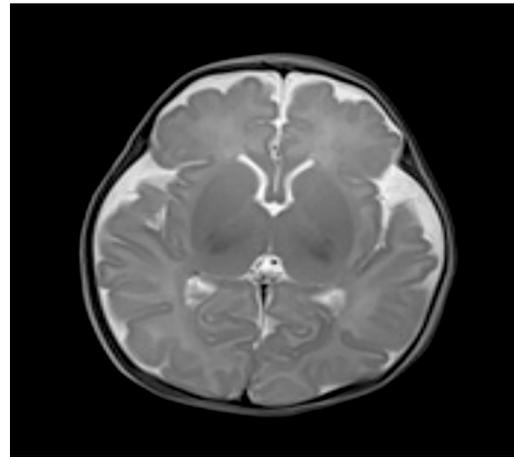
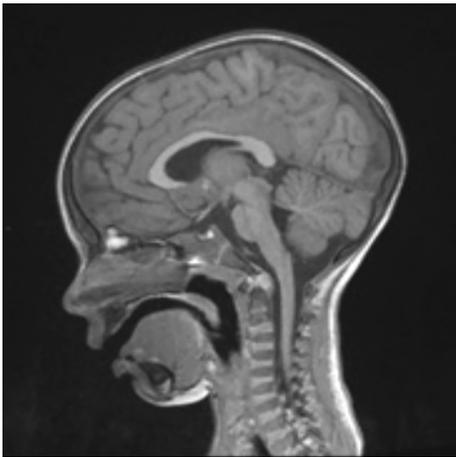


Fig. (1): MRI Brain postoperative.

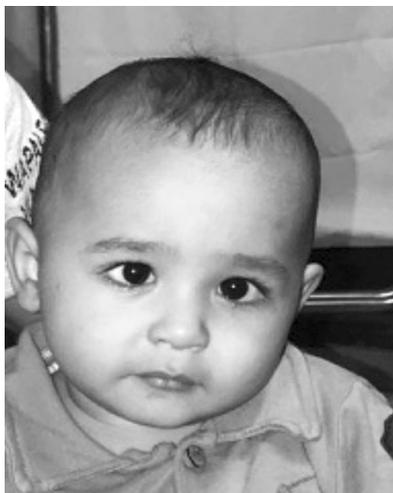


Fig. (2-A): Second day postoperative.



Fig. (2-B): Three months postoperative.

Discussion

Nervous Abducens paralysis is the most common type of all cranial nerve paralysis because of its long and curly shape [6]. As this complication is reversible, follow-up therapy is recommended in focal paralysis. Idiopathic Sixth cranial nerve palsy usually associated with intracranial pressure hypotension. Luiz Henrique et al., stated only 6 cases are described in the literature that directly relate abducens nerve palsy to postoperative spinal fluid leak-

age in spine surgeries [7]. Also, it may occur after spinal anesthesia with the same explanation [8].

Although in our case there were no Dural puncture or drop in intracranial pressure, abducens palsy occurred and recovered spontaneously after 3 months of conservative treatment.

Diplopia after general anesthesia has been reported only once to our knowledge in 1972 in a case of a child who had Hirschsprung's-disease for which three major surgical procedures [9]. Another

case was reported by Talal Althomali and Ahmed Mohamed Elabhar in 2016 that developed diplopia after general anesthesia and was diagnosed as a rare case of Spontaneous intracranial hypotension (SIH) and was treated as so by epidural blood patch procedure [10].

Conclusion:

Despite Abducent nerve palsy after non ocular surgery is very rare, it requires an accurate diagnosis and adequate multidisciplinary follow-up.

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شلل العصب القحفي السادس بعد اجراء عملية تثبيت خصيه معلقه

تعرض طفل في الثانية من عمره إلى شلل بالعصب السادس ادى إلى حول بالعين اليمنى بعد إجراء عملية ناجحه وبدون مضاعفات لتثبيت خصيه معلقه.

تم اجراء عملية تثبيت الخصيه للمريض في شهر يوليو ٢٠٢١ بمستشفيات جامعة القاهرة تم اعطاء التخدير الكلى الاستنشاقى واجراء العملية بدون اى احداث او مضاعفات تذكر. تمت افاقة الطفل بسلام وعودته لامه التى تم التصريح لها بالخروج من المستشفى للتعافى.

فى اليوم التالى لاحظت الام حول بالعين اليمنى استشارت بعدها الجراح وتم تحويل الام لطباء المخ والاعصاب والرمد الذين اوصو بعلاج تحفظى بعد الاطمئنان بالاشعاع والكشف الدقيق. تعافى الطفل تماما بعد ثلاثة اشهر من تاريخ العملية .

يعتبر شلل العصب القحفي السادس بعد عملية جراحية ليس لها علاقه بالعين من المضاعفات النادره جدا وتحتاج الى تشخيص جيد ومتابعه دقيقه من مجموعه متعاونه من الاطباء بمختلف التخصصات.