

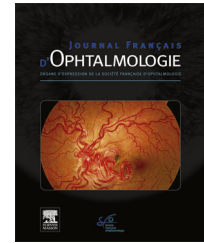


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ORIGINAL ARTICLE

Oculomotor palsy in diabetics

Paralysie oculomotrice chez les diabétiques

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KEYWORDS

Diabetes;
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Summary

Introduction. – Oculomotor palsy is one of the most frequent neuro-ophthalmologic complications of diabetic patients. It generates less interest in the literature than the other ocular manifestations. Our goal was to study the clinical, epidemiological, therapeutic and prognostic characteristics of oculomotor palsy in the diabetic.

Methods. – This is a retrospective study of 24 diabetic patients with oculomotor palsy. The ophthalmological examination emphasized ocular motility. We performed an orthoptic assessment and a Hess–Lancaster test. Neuro-imaging was ordered in case of IIIrd and IVth nerve involvement, bilateral involvement, multiple ocular cranial nerve palsy or associated optic neuropathy. Treatment consisted of glucose management and alternating monocular occlusion or prisms for the diplopia. Data were entered and analyzed on SPSS 11.5 software.

Results. – The mean age of the patients was 58.5 ± 11.9 years. Binocular diplopia was the main symptom. The oculomotor palsy involved the VIth nerve in 50% of cases and was bilateral in two cases. Three patients also had an optic neuropathy. The mean duration of diabetes was 11.7 ± 11 years; poorly controlled diabetes was found in 75% of cases and an association with diabetic retinopathy was noted in 56% of cases.

Conclusions. – Long-standing uncontrolled type 2 diabetes, hypertension, coronary artery disease, left ventricular hypertrophy, and elevated hematocrit are the most common risk factors. The VIth nerve is commonly involved. Certain characteristics of the pupillary light reflex can help to differentiate an ischemic insult from an aneurysmal injury to the IIIrd nerve.

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MOTS CLÉS

Diabète ;
Paralysie
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Neuropathie optique

Résumé

Introduction. — La paralysie oculomotrice est l'une des complications neuro-ophtalmologiques les plus fréquentes du diabétique. Elle soulève moins d'intérêt dans la littérature que les autres manifestations oculaires. Notre objectif était d'étudier les caractéristiques cliniques, épidémiologiques, thérapeutiques et évolutives de la paralysie oculomotrice du diabétique.

Méthodes. — Étude rétrospective sur 24 diabétiques atteints de paralysie oculomotrice. Nous avons insisté sur l'examen de l'oculomotricité complété par un bilan orthoptique et un test de Hess–Lancaster. L'imagerie cérébrale était demandée en cas d'atteinte des nerfs III et IV, d'affection bilatérale, de paralysies multiples ou de neuropathie optique associée. Le traitement consistait à équilibrer le diabète et à l'occlusion monoculaire alternée ou les prismes pour la diplopie. Les données ont été saisies et analysées sur le logiciel SPSS 11.5.

Résultats. — L'âge moyen des patients était de $58,5 \pm 11,9$ ans. La diplopie binoculaire était le principal symptôme. La paralysie oculomotrice concernait le VI^e nerf dans 50 % des cas et elle était bilatérale dans deux cas. Trois patients avaient une neuropathie optique associée. La durée moyenne d'évolution du diabète était de $11,7 \pm 11$ ans, un diabète déséquilibré était trouvé dans 75 % des cas et une association avec la rétinopathie diabétique était notée dans 56 % des cas.

Conclusions. — Un diabète de type 2 déséquilibré et ancien, l'hypertension artérielle, la coronaropathie, l'hypertrophie ventriculaire gauche, l'hématocrite élevé sont les facteurs de risque les plus fréquents. Le VI^e nerf est communément concerné. Le réflexe photomoteur peut aider à différencier une lésion ischémique d'une lésion anévrysmale du III^e nerf.

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Introduction

Neuro-ophtalmological manifestations are among the most common ocular pathologies in diabetics after diabetic retinopathy, cataract and glaucoma. The severity of these affections is variable, but they could lead to important visual function impairment. Oculomotor nerve palsy (ONP) raises less interest in literature than diabetic retinopathy which is a public health problem in our country. The onset of this disease can be explained by metabolic alterations, inflammation or vascular occlusion producing the ischemic degeneration of the nerve, infarction or hemorrhage in the nucleus or in the path of the cranial nerve from its emergence to the orbit. Our aim was to study clinical, epidemiological therapeutic and evolutionary features of ONP in diabetics.

Methods

This is a retrospective study including 24 patients with diabetes-associated ONP who were referred to our department between December 2011 and 2015. A detailed medical history and past history of the subjects were taken:

- age and gender;
- informations related to diabetes (type, duration, glycemic control, treatment and the presence of other microangiopathy);
- associated pathologies (high blood pressure, dyslipidemia, heart disease, stroke, anemia);
- functional signs such as diplopia, painful eyes, headache, visual acuity alteration and other neurological localizing signs, as well as their mode of onset and evolution.

Our patients underwent a bilateral and complete ophthalmological examination including:

- the best corrected visual acuity (Log Mar scale);
- pupils examination, checking for size, shape, and light reflexes;
- an anterior segment evaluation and a measurement of intra-ocular pressure;
- fundus examination;
- Goldmann visual field was asked if optic neuropathy was associated.

Particular attention was paid to lid examination, pupillary reflexes and extra-ocular movements. We noted the presence of a vicious attitude of the head, ptosis or deviation of the eyeballs. The study of extra-ocular movements included: duction and version with an orthoptic assessment measuring the importance of the deviation and searching for a sensory disorder. All of our patients had a Hess–Lancaster test.

A specialized neurological examination with a brain magnetic resonance imaging (MRI) were asked in case of IIIrd and IVth nerves involvement, bilateral affection, multiple ocular cranial nerve palsy or associated optic neuropathy.

The treatment consisted on diabetes equilibration and altered monocular occlusion or prisms for the diplopia.

All these patients were monitored regularly with a complete ophthalmological examination and a Hess–Lancaster test.

Data were entered and analyzed on SPSS 11.5 software. The univariate analysis by the simple linear regression method was used to search for ONP risk factors. Only factors with a threshold of significance $P < 0.05$ have been introduced in the multivariate analysis.

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