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ORIGINAL ARTICLE

# Intralacrimal migration of Masterka® stents

## *Migrations intralacrymales des sondes Masterka®*

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**KEYWORDS**
Lacrimal duct;
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Monocanalicular;
Intubation;
Pushed intubation;
Masterka®

**Summary**
*Background.* — Tearing and conjunctivitis in children are commonly due to lacrimal drainage system obstruction. Congenital nasolacrimal obstruction is a common pathology treated by probing with or without silicone stent insertion, depending upon the age of the child. The silicone stent is self-retaining and placed for at least one month. Masterka® is a recent version of Monoka®, which may lead to the same surgical complications, such as intralacrimal migration.
*Subjects and methods.* — The medical records of two patients surgically treated with the Masterka® probe for nasolacrimal duct obstruction, who developed intralacrimal migration of the stent, were retrospectively reviewed and analyzed. A 41-month-old child and an 18-month-old child presented with disappearance of the silicone tube after 7 days and 2 years respectively. In the first case, the tube migrated completely within the lacrimal system and became externalized through the nose at 2 years, while in the second case, the Masterka® was retrieved through a canalicular approach. In both cases, infants had no further tearing.
*Discussion.* — The frequency self-retaining stent disappearance is estimated at 15%. Among these cases, intralacrimal migration is only reported in 0.5% of cases. To prevent intralacrimal migration, the surgical technique must follow a certain number of rules. Management, based on residual epiphora, is discussed.

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*Conclusion.* — Prevention of intralacrimal migration of self-retaining stents involves a rigorous analysis of the relationship between the meatus and the fixation head at the time of placement. After lacrimal intubation, scheduled monitoring is necessary to screen for stent disappearance. Management is based on clinical findings, anterior rhinoscopy and even exploratory canaliculotomy.


**MOTS CLÉS**
Voies lacrymales ;
Larmoiement ;
Imperforation lacrymonasale ;
Obstruction lacrymo-nasale congénitale ;
Mono-canaliculaire ;
Intubation ;
Intubation poussée ;
Masterka®

**Résumé**
*Introduction.* — L'obstruction congénitale des voies lacrymales de l'enfant est une pathologie fréquente, traitée classiquement par sondage ou intubation en fonction de l'âge de l'enfant. Les sondes à fixation méatique autostable doivent rester en place un mois environ. La Masterka® est une variété récente de Monoka®. Elle donne lieu aux mêmes complications comme la migration intralacrymale.
*Matériel et méthodes.* — Deux cas cliniques d'enfants présentant une imperforation lacrymonasale rebelle traitée par Masterka® sont rapportés et analyses rétrospectivement. Chez ces deux enfants, âgés respectivement de 41 et 18 mois, la disparition de leur sonde a été constatée après respectivement 7 jours et 2 ans d'intubation. Dans le premier cas la sonde a complètement migré à l'intérieur de la voie lacrymale jusqu'à son extériorisation nasale après deux années, tandis que dans le deuxième cas, la Masterka® a été retirée après un abord canaliculaire.
*Discussion.* — La fréquence de disparition des sondes à fixation méatique autostable est d'environ 15 %. Parmi elles, les migrations intralacrymales ne représentent que seulement 0.5 % des cas. Pour prévenir la migration intralacrymale, la technique chirurgicale doit suivre un certain nombre de règles. La conduite à tenir, fonction de l'épiphora résiduel, est discutée.
*Conclusion.* — La prévention des migrations intralacrymales des sondes autostables passe par une analyse rigoureuse des rapports méat—tête de fixation au moment de la pose. Après intubation lacrymale, une surveillance planifée est nécessaire pour dépister une disparition de sonde. La conduite à tenir est basée sur : clinique, rhinoscopie antérieure, voire canaliculotome exploratrice.


Obstruction of lacrimal drainage system commonly leads to tearing and conjunctivitis. After opening the lacrimal ducts, a silicone stent can be introduced and retained for several weeks or months. The Masterka® (Msk) probe is a type of Monoka (Mok) which is inserted by a pushed method rather than pulled into position. In both methods, the plug of the stent is auto-stabilized by placing it in position to be held in place by the sphincter effect of the meatic ring [1]. The introducer guide is placed inside the stent lumen, permitting a pushed method of intubation. Due to its design, it can be inserted just like a venous catheter. The Msk is indicated for the treatment of mucosal lacrimonasal stenosis as an alternative for late and very late probing. Once in place, the literature [1—10] suggests that the safety and complications' rate of these two self-stabilising probes (Msk & Mok) are similar [1—10]. Of the complications mentioned, the loss or disappearance should really be a separate category [11]. The rate of loss varies from 5.7 to 44% for the Mok and 6.8 to 30% for the Mok [1,8—10]. Disappearance is either due the probe being lost externally for some unknown reason or may be due in intralacrimal migration (canaliculus or duct). Well-documented cases of intralacrimal migration (ILM) of Monoka stents are very rare. This complication has been reported in only 0.5% of cases [8]. The mechanism for ILM is probably due to excessive tension from pulling the stent into the punctum and lower system during insertion. A single case of Msk ILM was reported after insertion during an endonasal DCR [12]. The Msk plug had not been placed using the dilating insertion pin. It was inserted by pulling on the nasal strand until it entered the punctum. We are now reporting two cases of Msk intralacrimal migration in children treated for a nasolacrimal obstruction.

## Methods

The medical records of two patients surgically treated with Msk intubation for nasolacrimal duct obstruction and presenting ILM of the stent were retrospectively reviewed and analyzed.