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A new device for ocular globe enucleation

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Introduction: The necessity of perfecting the enucleation technique, specially in case of intraocular malignancy, in order to obtain an adequate amount of tissue for histological analysis and a minimum trauma on remain orbital structures is a consensus. By conventional procedures the excising of enough length of the optic nerve (ON) presents a distinct problem, even for experienced surgeons.

Purpose: The general purpose of this study was to develop and describe the use of a new device for enucleation. The specific objective was to achieve a systematic excision of lengthy ON stump (at least 10 mm) during the enucleation.

Methods: The instrument patent process was sponsored by NUPI (Núcleo de Propriedade Intelectual) – UNIFESP/ SDPM. The legal and technical aspects of the instrument creation were accessorized by a patent office. Patent registry was deposited in 12/19/2005 and published in 10/02/2007 (PI 0506204-7). The instrument prototype was produced by the inventor in conjunction with an engineer. The prototype consisted in a steel device made in two sizes in order to attended adults and children. The instrument was constituted by a couple of connectable arms (similar to gynecological forceps) that are introduced in orbital cavity after the globe is freed from extraocular muscles and Tenon's. Each arm has a plaque in its final edge, measuring 10mm that obligates the surgeon to cut the nerve in adequate length

Results: At the present, 21 cases were performed by a unique surgeon (VLLT) e 4 cases were performed by others. In all cases the instrument has allowed the globe luxation from the orbital cavity and severed the optic nerve stump with more than 10 mm in length, with a mean of 14,8mm.

Conclusion: In this sample the instrument was capable to allow good exposition of optic nerve and protection of nearby orbital structures. In all cases a long optic nerve stump was obtained.