

USES OF LASER SCLEROSTOMIES

Essay

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By

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Contents

	Page
* Introduction	1
* Aim of the Work	3
* Review of literature	
* Principles of laser tissue interactions	4
* Types of lasers used in laser sclerostomies	15
* Laser sclerostomy techniques	27
- Non invasiv Ab-interno techniques	27
- Invasive Ab-interno techniques	39
- Invasive Ab-externo techniques	47
* Histologic characteristics of healing after laser sclerostomies	65
* Antimetabolites in laser sclerostomy	72
* Results and Complications	78
* Laser revision of failing filters	85
* Summary	107
* References	109
* Arabic Summary	

List of Figures

	Page
Fig. (1): Holmium Laser System for sclerostomy	17
Fig. (2A): Iontophoresis of Methylene Blue dye into the Sclera	34
Fig. (2B): Conioscopic View of Dyed Sclera with Internal Opening of sclerostomy	34
Fig. (3): Dye enhanced sclerostomy by the CGF Goniolens.	35
Fig. (4): Invasive Ab interno Sclerostomy with the Saphire Probe	41
Fig. (5): Ab Externo Holmium Laser Sclerostomy	49
Fig. (6A): Filtering Bleb Lasting 8 months after Holmium Laser Sclerostomy	52
Fig. (6B): Filtering Bleb Lasting 12 months after Holmium Laser Sclerostomy	52
Fig. (7A&B): Open Mask System Used in Excimer Laser Sclerostomy	59
Fig. (8A&B): Technique of Excimer Laser Sclerostomy	60
Fig. (9): Histopathology of Sclerostomy using the Argon Laser	69
Fig. (10): Anatomical Sites of Obstruction within the Trabeculectomy	91
Fig. (11): Ab Externo Nd: YAG Laser Revision of Failing Filters	103

List of Abriviations

Nd: YAG: Neodymium Yttrium Aluminum Garnet.

THC: YAG: Thulium Holmium Chromium.

Nd: YLF: Neodymium Yttrium Lithium Flouride.

Er: YAG: Erbium YAG Laser.

HO: YAG: Holmium YAG Laser.

C. W.: Continuous Wave Mode of Laser.

GLS: Gonioscopic Laser Sclerostomy.

He-Ne: Helium Neon Laser Beam.

IOP: Intraocular Pressure.

RB5: Reactive Black 5 Dye.

PET: Partial External Trabeculectomy.

ELS: Excimer Laser Sclerostomy.

tPA: Tissue Plasminogin Activator.

GFS: Glaucoma Filtering Surgery.

Introduction I Aims of the Book

INTRODUCTION

Laser sclerostomy as a technique to perform glaucoma filtration surgery is gaining increasing attention as an approach that could minimize complications and improve the long term success of filtration blebs, and it will undoubtedly become available alternative to conventional filtration surgery (*Bruce et al., 1994*).

Conventional glaucoma filtration surgery has two principle areas of poor control: the reproducibility of fistular dimensions and the extent of tissue trauma which eventuates in fistula closure. Lasers help remedy these limitations by providing a more predictable and reproducible fistula size and by minimizing the manipulation of ocular tissue, thus deceiving the body's normal healing response (*Michael S. Berlin, 1993*).

The subject of selection of best candidate lasers and safest delivery methods is a challenge to achieve the best results of predicability and long term survival of filtration fistulas. So, various types of lasers are currently available for creation of filtration fistulas including 'Nd': YAG, pulsed dye, argon, CO₂, Excimer, holmium (THC): YAG, erbium: YAG and Nd: YLF lasers (*Iwash, et al., 1993*).

Lasers can be used to revise failing or hypofunctioning filters. Lasers offer the advantage of avoiding surgical entry into the eye. Both argon and Nd: YAG lasers have been used to revise failing filters. Nd: YAG lasers (mode locked or Q- switched) have the broadest application in revision of failing filters because of their ability to cut tissue, and unlike argon lasers, they neither coagulate nor require absorption by pigment to effectively disrupt tissue (*Latina & Shields, 1993*).