

## DAFTAR PUSTAKA

- Abdull MM, Broadway DC, Evans J, et.al.,(2018). Safety and effectiveness of primary transscleral cyclophotoablation for glaucoma in Nigeria. Clinical & Experimental Ophthalmology. Doi: 10.1111/ceo.13328.
- Agrawal P, Dulku S, Nolan W, Sung V. (2011). The UK National Cyclodiode Laser Survey. *Eye* (2011) 25, 168-173; doi:10.1038/eye.2010.174.
- Alzuhairy, S., Albahlal, A., Aljadaan, I., Owaidhah, O., Al Shahwan, S., Craven, E. R., Edward, D. P. (2016). Intraocular Pressure Outcomes Following Transscleral Diode Cyclophotocoagulation Using Long and Short Duration Burns. *Journal of Glaucoma*.
- American Academy of Ophthalmology. *Basic and Clinical Science Course: Sec 2: Fundamentals and Principles of Ophthalmology*. San Francisco, 2016-2017. p. 98-101.
- Ansari E, Gandhewar J. Long-term efficacy and visual acuity following transscleral diode laser photocoagulation in cases of refractory and non-refractory glaucoma. *Eye (Lond)*. 2007; 21(7): 936-940.
- Aquino M., Barton K., Tan A., Sng, Chelvin., Li, Xiang., Loon SC., Chew PT. (2015). Micropulse versus Continuous Wave Transscleral Diode Cyclophotocoagulation in Refractory Glaucoma: A randomized exploratory Study. *Clin Experiment Ophthalmol*. 2015;43(1):40-46.
- Assia EI, Hennis HL, Stewart WC, et.al. (1991). A comparison of Neodymium: Yttrium Aluminum Garnet and Diode Laser Transscleral Cyclophotocoagulation and Cyclocryotherapy. *Invest Ophthalmol Vis Sci*, 1991;32:2774-2778.
- Beardsley R, Law SK, Caprioli J, et.al. (2017). Comparison of outcomes between endoscopic and transscleral cyclophotocoagulation. *Vision 2017*, 1, 24; doi:10.3390/vision1040024.
- Belyea DA, Mines MJ, Yao WJ, Dan JA, Bower KS. (2013). Telerobotic Contact Transscleral Cyclophotocoagulation of the Ciliary Body with Diode Laser. *J Robotic Surgery*.
- Bloom PA, Tsai JC, Sharma K, Miller MH, Rice NS, Hitchings RA, et.al. "Cyclodiode". Trans-scleral diode laser cyclophotocoagulation in the treatment of advanced refractory glaucoma. *England.Ophthalmology*. 1997; 104:1508-19 (discussion 1519-1520).

Bloom PA, Clement CI, King A, et.al., A compariso between tube surgery, Nd:YAG laser and diode laser cyclophotocoagulation in the management of refractory glaucoma. London. BioMed Research International. August 2013. <http://dx.doi.org/10.1155.2013/371951>

Breivik H, Borchgrevink PC, Allen SM, Rosseland LA, et.al., (2008). Assessment of pain. *British Journal of Anaesthesia*, 101(1), 17-24. Doi: 10.1093/bja/aen103.

Chen MF, Kim CH, Coleman AL. (2019). Cyclodestructive procedures for refractory glaucoma. Cochrane Database of Systematic Reviews. doi:10.1002/14651858.cd012223.pub2.

Chiam PJ, Sung VCT. (2017). The Outcome of transscleral cyclophotocoagulation for the management of acute angle closure. European Journal of Ophthalmology 28(2):188-192.

Dastiridou AI, Katsanos A, Denis P, Francis BA, Mikropoulos DG, Teus MA, Konstas AG. Cyclodestructive Procedures in Glaucoma: A Review of current and Emerging Options. *Advance Therapy*. 2018;35(12):2103-2127.

Dhanireddy S, Yin HY, Dosakayala N, et.al., (2020). Severe inflammation and hyphema after micropulse diode transscleral cyclophotocoagulation. *Journal of Glaucoma*, 29(6), e50-e52. Doi: 10.1097/jg.0000000000001508.

Duerr ERH, Sayed MS, Moster SJ, Holley TD, Peiyao J, Vanner EA, Lee RK. Transscleral Diode Laser Cyclophotocoagulation: A Comparison of Slow Coagulation and Standard Coagulation Techniques. *Ophthalmology Glaucoma*. Volume 125, Issue 12, Desember 2018, Pages 1839-1841.

Emanuel ME, Grover DS, Fellman RL, et.al. Micropulse cyclophotocoagulation: initial results in refractory glaucoma. *J Glaucoma*. 2017; 26: 726-729.

Gaasterland DE, Radcliffe NM, Vold SD, Kammer JA. (2012). Reconsidering Transscleral Cyclophotocoagulation. *Insert To Glaucoma Today*. January/February 2012.

Garcia GA, Ngguyen CV, Yelenskiy A, Akiyama G, et.al. (2019). Micropulse transscleral Diode Laser Cyclophotocoagulation in Refractory Glaucoma; Short-Term efficacy, Safety, and Impact of surgical history on outcome. *Ophthalmology Glaucoma*. Doi: 10.1016/j.ogla.2019.08.009.

Golan S & Kurtz S (2015). Diode laser cyclophotocoagulation for nanophthalmic chronic angle closure glaucoma. *Journal of Glaucoma*, 24(2), 127-129. Doi:10.1097/jg.0b013e31829da1ba.

Hjermstad MJ, Fayers PM, Haugen DF, Caraceni A, Hanks GW, Loge JH, et.al., (2011). Studies comparing numerical rating scales, and verbal rating scales, and visual analogue scales for assessment of pain intensity in adults: A systematic literature review. *Journal of Pain and symptom Management*, 41(6), 1073-1093.

IAPB (The International Agency for the Prevention of Blindness). In 2015, an estimated 3 million people were blind due to glaucoma. (2017). <https://www.iapb.org/knowledge/what-is-avoidable-blindness/glaucoma/>

Iliev ME, Gerber S. (2007). Long-term outcome of trans-scleral diode laser cyclophotocoagulation in refractory glaucoma. *British Journal of Ophthalmology*, 91(12), 1631-1635. Doi: 10.1136/bjo.2007.116533.

Jammal AA, Costa DC, Vasconcellos JC, Costa VP. (2019). Prospective evaluation of micropulse transscleral diode cyclophotocoagulation in refractory glaucoma: 1 year results. Brazil, EPUB, 2019 Jun. DOI: 10.5935/0004-2749.20190076.

Kaushik S, Pandav SS, Ichhpujani P. Diode Laser Cyclophotocoagulation. India. *Journal of Current Glaucoma Practice*, Sept-Dec 2007;1(2):35-39.

Kaushik S, Pandav SS, Jain R, Gupta A, Bansal SA. (2008). Lower energy levels adequate for effective transscleral diode laser cyclophotocoagulation in Asian eyes with refractory glaucoma. *Eye*, March 2008; 22:398-405.

Kosoko O, Gaasterland DE, Pollack IP, Enger CL. Long-term outcome of initial ciliary ablation with contact diode laser transscleral cyclophotocoagulation for severe glaucoma. The diode laser ciliary ablation study group. *Ophthalmology*. 1996; 103: 1294-302.

Kuchar S, Moster MR, Reamer CB, Waisbord M. Treatment outcomes of micropulse transscleral cyclophotocoagulation in advanced glaucoma. Glaucoma Research Center, Wills Eye Hospital, *Laser Med Sci* (2016) 31:393-396.

Kumar H, Gupta S, Agarwal A. Corneal edema following diode laser cyclophotocoagulation in an eye with secondary glaucoma. *Indian J Ophthalmol*, 2008; 56:317-8.

- Lai JS, Tham CC, Chan JC, et.al. Diode laser transscleral cyclophotocoagulation as primary surgical treatment for medically uncontrolled chronic angle closure glaucoma: long-term clinical outcomes. *J Glaucoma*, Apr 2005;14(2):114-9.
- Lin SC, Chen MJ, Lin MS, Howes E, Stamper RL. (2006). Vascular Effect on Ciliary Tissue From Endoscopic versus Trans-scleral Cyclophotocoagulation. *British Journal of Ophthalmology*, 2006;90:496-500.
- Lirio JP, Martinez JM, Altuna J, League J, Reyes RD. Single-setting treatment protocol for diode-laser transscleral cyclophotocoagulation. Philippines. *Philippine Journal of Ophthalmology*, Oct-Dec 2004; 29(4):171-174.
- Mandal S, Gadia R, Ashar J. (2009). Diode Laser Cyclophotocoagulation. *Journal of Current Glaucoma Practice*. May-August 2009;3(2):47-59.
- Menezes LM, Souza MCC, Ciarlini LR, Verissimo CR, Matos AG. (2019). Transescleral cyclophotocoagulation treatment for painful eye with glaucoma neovascular. *Rev Bras Oftalmol*. 2020; 79(1): 38-41. Doi: 10.5935/0034-7280.20200007.
- Mularsky RA, White-Chu F, Overbay D, et al. Measuring pain as the 5th vital sign does not improve quality of pain management. *J Gen Intern Med*, 2006; 21:607 – 612.
- Murphy CC, Burnett CA, Spry PG, et al. (2003). A two centre study of the dose-response relation for transscleral diode lasercyclophotocoagulation in refractory glaucoma. *Br J Ophthalmol*, Oct 2003;87(10):1252-57.
- Murray J, Wang R, Padilla S, Wen K. (2017). Transscleral laser induces aqueous outflow pathway motion and reorganization. *UW Medicine Eye Institute*. <https://www.iridex.com/portals/0/pdf/Transscleral-induces-aqueous-outflow-pathway-motion-and-reorganization-Dr.pdf>
- Nguyen AT, Maslin J, Noecker RJ. (2019). Early results of micropulse transscleral cyclophotocoagulation for the treatment of glaucoma. *European journal of Ophthalmology*, 112067211983930. Doi: 10.1177/1120672119839303.
- Noecker RJ. Micropulse P3 Glaucoma Device Revolutionizes Cyclophotocoagulation. *Insert to Glaucoma Today*. 2015 Mar-Apr; 13(2):1-2.
- Noecker RJ, Kelly T, Patterson E, Herrygers LA. Diode Laser contact transscleral cyclophotocoagulation: getting the most from the G-probe. *Ophthalmic Surg Lasers Imaging*. 2004; 35:124-130.

- Quigley, HA. Improved Outcomes for transscleral cyclophotocoagulation through optimized treatment parameters. *Journal of Glaucoma*, 2018;27(8):674-681.
- Ramli N, Htoo HM, Hoo CL, Aung T, Perera S. (2012). Risk Factor for hypotony after transscleral diode cyclophotocoagulation. *Journal of Glaucoma*. 21(3): 169-173.
- Rootman DB, Howarth D, Kerr JQ, et.al. Sterile single use cover for the G-probe transscleral cyclodiode. *J Glaucoma*, 2011;20:260-265.
- Sanchez FG, Peirano-Bonomi JC, Grippo TM, Micropulse transscleral cyclophotocoagulation: A hypothesis for the ideal parameters. *Med Hypothesis Discov Innov Ophthalmol*.2018 Fall; 7(3):94-100.
- Sarrafpour S, Saleh D, Ayoub S, et.al. Micropulse Transscleral Cyclophotocoagulation: A look at long-term effectiveness and outcomes. *Ophthalmology Glaucoma*, May-June 2019;2(3):167-171.
- Sayyahmelli S, Alipanahi R. (2011). Cyclodestructive Procedures. *Glaucoma-Basic and Clinical Concepts*. Doi:10.5772/22596.
- Schlotte T, (2000), Transscleral diode laser cyclophotocoagulation for the treatment of refractory glaucoma secondary to inflammatory eye diseases. *British Journal of Ophthalmology*, 84(9), 999-1003. Doi: 10.1136/bjo.84.9.999.
- Shah P, Bhakta A, Vanner EA, et.al. (2018). Safety and efficacy of diode laser transscleral cyclophotocoagulation in eyes with good visual acuity. *Journal of Glaucoma*, 1. Doi: 10.1097/ijg.0000000000001057.
- Shahid H, Samia Aly E. (2013). The effectiveness of transscleral cyclodiode treatment. *European Ophthalmic Review*. March2013(1):17-9.
- Singh, K., Dangda, S., Ahir, N. et al. Diode laser cyclophotocoagulation paves way to a safer trabeculectomy in eyes with medically uncontrollable intraocular pressure. *Int Ophthalmol* 37, 365–370 (2017). <https://doi.org/10.1007/s10792-016-0270-z>
- Subramaniam K, Price M, Feng M, Price F. (2019). Micropulse Transscleral cyclophotocoagulation in keratoplasty eyes. *The Journal of Cornea and External Disease*, 38(5): 542-545.
- Tan AM, Chockalingam M, Aquino MC, et al. Micropulse transscleral diode laser cyclophotocoagulation in the treatment of refractory glaucoma. *Clin Experiment Ophthalmol*. 2010;38(3): 266-272.

- Tan NY, Ang M, Chan ASY, et.al., (2019). Transscleral cyclophotocoagulation and its histological effects on the conjunctiva. *Scientific Reports*, 9(1). Doi: 10.1038/s41598-019-55102-0.
- Tekeli O & Kose HC. (2020). Outcomes of micropulse transscleral cyclophotocoagulation in primary open-angle glaucoma, pseudoexfoliation glaucoma, and secondary glaucoma. *European Journal Ophthalmology*, 1-9. Doi:10.1177/1120672120914231.
- Tham YC, Li X, Wong TY, Quigley HA, Aung T, Cheng CY. Global prevalence of glaucoma and projections of glaucoma burden through 2040: A systematic review and meta-analysis. *Elsevier*. 2014; 121(11): 2081-2090.
- Tzamalis A, Pham DT, Wirbelauer C. Diode laser cyclophotocoagulation versus cyclocryotherapy in the treatment of refractory glaucoma. *Eur J Ophthalmol*. 2011;21(5):589-596.
- Uppal S, Stead RE, Patil BB, et al. Short-term effect of diode laser cyclophotocoagulation on intraocular pressure: a prospective study. *Clinical and Experimental Ophthalmology*, 2015; 43: 796-802.
- Varikuti VNV, Shah Parth, Rai Oshin, et.al., (2019). Outcome of micropulse transscleral cyclophotocoagulation in eyes with good central vision. *J Glaucoma*, volume 28, number 10. Doi: 10.1097/IJG.0000000000001339.
- Widyanatha MI, Satari K. (2017). Analisis retrospektif keberhasilan tindakan transscleral cyclophotocoagulation pada pasien glaucoma refrakter dipusat mata nasional Rumah Sakit Mata Cicendo. Perpustakaan RSM Cicendo. 2017/03.
- Williams AL, Moster MR, Rahmatnejad K, et.al. 2018. Clinical efficacy and safety profile of micropulse transscleral cyclophotocoagulation in refractory glaucoma. Philadelphia, *Journal of Glaucoma*. DOI:10.1097/IJG.0000000000000934
- Xin C, Wang RK, Song S, et.al., (2016). Aqueous outflow regulation: Optical coherence tomography implicates pressure-dependent tissue motion. *Experimental Eye Research* (2016):1-16.

Yelenskiy A, Gillette TB, Arosemena A, Stern AG, Garris WJ, et.al., (2018). Patient outcomes following micropulse transscleral cyclophotocoagulation. *Journal of Glaucoma*, 1. Doi: 10.1097/jg.0000000000001023

Yildrim N, Yalvac IS, Sahin A. (2009). A comparative study between diode laser cyclophotocoagulation and the Ahmed Glaucoma Valve implant in neovascular glaucoma. A long-term followu-up. *J Glaucoma*. 2009;18(3): 192-196.

Yu SW, Ma A, & Wong JK. (2019). Micropulse laser for the treatment of glaucoma: a literature review. *Suervey of Ophthalmology*. Elsevier Inc. doi: 10.1016/j.survophthal.2019.01.001.

Zaarour K, Abdelmassih Y, Arej N, et.al. (2019). Outcomes of micropulse transscleral cyclophotocoagulation in uncontrolled glaucoma patients. *Journal of Glaucoma*. 2019;28(3): 270-275.

Zhekova I, Janjua R, Shahid H, Sarkies N, Martin KR, White AJR. (2015). A Retrospective Analysis of Long-Term Outcomes Following A Single Episode of Transscleral Cyclodiode Laser Treatment in Patients with Glaucoma. *BMJ Open*, 2013;3:e002793.

# **LAMPIRAN**



## KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN

KOMITE ETIK PENELITIAN KESEHATAN

Fakultas Kedokteran Universitas Hasanuddin

RSPTN Universitas Hasanuddin

RSUP dr. Wahidin Sudirohusodo Makassar

Sekretariat : Lantai 2 Gedung Laboratorium Terpadu FKUH

. PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10, MAKASSAR 90245

Contact Person: dr. Agussalim Bukhari, M.Med, Ph.D, Sp.GK 081241850858

e-mail:agussalimbukhari@yahoo.com

---

### Lampiran 1.

### NASKAH PENJELASAN PADA SUBYEK

## EFEKTIFITAS DAN KEAMANAN PENGGUNAAN MICROPULSE TRANSSCLERAL CYCLOPHOTOCOAGULATION (MP-TSCPC) PADA PASIEN GLAUKOMA

Selamat pagi/Assalamualaikum bapak/ ibu/ saudara(i), Saya Yosylina Pramudya Wardhani, dari bagian Ilmu Kesehatan Mata Unhas. Kami bermaksud untuk melakukan penelitian mengenai efektifitas dan keamanan penggunaan mTSCPC pada pasien glaukoma di Makassar.

Kami bermaksud melakukan penelitian ini untuk melihat bagaimana efektifitas penurunan tekanan bola mata (TIO) dan keamanan penggunaan mTSCPC (laser siklofotokoagulasi) pada pasien glaukoma. Penelitian ini kami ajukan untuk meneliti efektifitas dan efek samping dari tindakan laser siklofotokoagulasi pada pasien glaukoma refrakter, yaitu glaukoma yang menetap setelah dilakukan pengobatan anti glaukoma dan ataupun tindakan operasi.

Semua pemeriksaan awal yang dilakukan merupakan bagian dari pemeriksaan rutin pasien glaukoma. Pemeriksaan setiap pasien akan membutuhkan waktu rata-rata 30 - 60 menit. Pada pemeriksaan ini kami akan melakukan pemeriksaan visus, bagian depan bola mata dengan slitlamp, pemeriksaan tekanan bola mata menggunakan aplanasi Goldmann, pemeriksaan menggunakan 4 mirror gonioskopi untuk melihat sudut depan bola mata. Tindakan laser siklofotokoagulasi dilakukan bila pemeriksaan awal sudah dilakukan dan dicatat seluruhnya.

Mengingat tindakan laser yang dilakukan akan menimbulkan nyeri, maka pada penelitian ini akan dilakukan dengan menggunakan anestesi yang dilakukan oleh dokter ahli anestesi. Terjadinya iritasi ringan setelah dilakukan tindakan merupakan hal biasa, maka kemudian diberikan terapi topikal steroid selama dua minggu hingga 1 bulan pertama. Setelah pemeriksaan ini dilakukan, dan diikuti kontrol (follow up) sehingga kami dapat menilai apakah pasien sampel mengalami perubahan TIO dan menimbulkan efek samping . Berdasarkan hasil tersebut, kami akan masukkan ke dalam data penelitian, dan dapat diketahui efektifitas serta keamanan dari penggunaan laser siklofotokoagulasi ini.

Sebelum prosedur pemeriksaan, pasien akan ditetesi obat untuk anestesi. Proses penetesan obat dapat menyebabkan efek samping dan komplikasi berupa pedih sesaat sehingga terjadi rasa tidak nyaman dan mata merah. Adapun pencegahan dan penanganan yang dapat dilakukan bila terjadi komplikasi seperti infeksi yaitu dengan penggunaan obat *artificial tears* untuk menghilangkan efek obat dan menetralkan mata kembali dan melakukan prosedur cuci tangan rutin sebelum menyentuh pasien. Setelah pasien memenuhi kriteria, kemudian disiapkan untuk memasuki kamar operasi, dilakukan prosedur anestesi regional blok (retrobulbar) dan sedasi oleh seorang dokter ahli anestesi. Prosedur siklofotokoagulasi dilakukan oleh dokter mata ahli glaukoma di Klinik Orbita Makassar dengan pengaturan laser awal yang telah ditentukan. Kemudian pasien dirawat inap satu malam, serta diberikan obat tetes topikal. Selanjutnya dilakukan kontrol (Follow up) hari pertama sebelum pulang, dan kontrol selanjutnya dengan waktu yang telah ditentukan.

Kami sangat mengharapkan kesediaan Bapak/Ibu untuk dapat mengikuti penelitian ini, mengingat prosedur tindakan dalam penelitian ini merupakan prosedur standar dan peneliti tidak melakukan intervensi maupun perubahan prosedur. Penelitian ini bersifat sukarela tanpa ada kompensasi maupun paksaan, sehingga bapak/ibu sekalian dapat menolak untuk ikutserta. Bapak/Ibu juga dapat menolak atau mengundurkan diri dari penelitian ini kapan saja jika terdapat hal-hal yang tidak berkenaan terhadap bapak/ibu dan tidak akan dikenakan sanksi apapun. Pengunduran diri tersebut tidak akan mengurangi perubahan mutu pelayanan dari dokter.

Bila masih ada hal-hal yang ingin Bapak/Ibu ketahui, maka Bapak/Ibu dapat bertanya atau meminta penjelasan pada kami di Bagian Ilmu Kesehatan Mata RS UNHAS, atau secara langsung melalui nomor telepon saya: dr. Yosylina Pramudya Wardhani, 082133885050.

Semua data dari penelitian ini akan dicatat dan dipublikasikan tanpa membuka data pribadi pasien. Data pada penelitian ini akan dikumpulkan dan disimpan dalam *file* manual dan elektronik, diaudit dan diproses serta dipresentasikan pada:

- Forum ilmiah Departemen Ilmu Kesehatan Mata, FK - Universitas Hasanuddin
- Publikasi pada jurnal ilmiah dalam negeri

Bila bapak/ibu setuju maka kami berharap bapak/ibu menandatangani surat persetujuan setelah mengikuti penjelasan ini.

Atas kesediaan dan kerjasama bapak/ibu, kami ucapkan terima kasih.

### **Identitas Peneliti**

Nama : Yosylina Pramudya Wardhani

Alamat : Perumahan Graha Lestari blok D1/5, Jalan Tun Abdul Razak,Makassar

Hp : 082133885050

DISETUJUI OLEH KOMISI  
PENELITIAN KESEHATAN  
FAKULTAS KEDOKTERAN UNHAS  
TGL..... 2020



# KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN

KOMITE ETIK PENELITIAN KESEHATAN

Fakultas Kedokteran Universitas Hasanuddin

RSPTN Universitas Hasanuddin

RSUP dr. Wahidin Sudirohusodo Makassar

Sekretariat : Lantai 2 Gedung Laboratorium Terpadu FKUH

JL. PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10, MAKASSAR 90245

Contact Person: dr. Agussalim Bukhari, M.Med, Ph.D, Sp.GK 081241850858

e-mail:agussalimbukhari@yahoo.com

---

## Lampiran 2.

### FORMULIR PERSETUJUAN

Saya yang bertanda tangan di bawah ini :

Nama : ..... Umur : .....  
tahun  
Alamat : .....  
Telepon/HP : .....

Menyatakan bersedia untuk berpartisipasi pada penelitian ini yang berjudul :

### **“EFEKTIFITAS DAN KEAMANAN PENGGUNAAN MICROPULSE TRANSSCLERAL CYCLOPHOTOCOAGULATION (MP-TSCPC) PADA PASIEN GLAUKOMA”**

setelah mendengar/membaca dan mengerti penjelasan yang diberikan mengenai tujuan dan manfaat yang akan didapatkan pada penelitian ini, khususnya bagi kemajuan ilmu kedokteran.

Makassar, .....

Saksi I

Saksi II

(.....)

.(.....)

Penanggung jawab penelitian:

dr. Yosylina Pramudya Wardhani  
Perumahan Graha Lestari blok D1/5, Jalan Tun Abdul Razak, Makassar  
08213385050

Penanggung jawab medik :

Dr. dr. Noro Waspodo, Sp.M  
Monginsidi Eye Center, Jalam Walter Monginsidi no 126 Makassar  
Telp.082188587363

DISETUJUI OLEH KOMISI  
PENELITIAN KESEHATAN  
FAKULTAS KEDOKTERAN UNHAS  
TGL..... 2020



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN  
UNIVERSITAS HASANUDDIN FAKULTAS KEDOKTERAN  
KOMITE ETIK PENELITIAN KESEHATAN  
RSPTN UNIVERSITAS HASANUDDIN  
RSUP Dr. WAHIDIN SUDIROHUSODO MAKASSAR



Sekretariat : Lantai 3 Gedung Laboratorium Terpadu  
JL.PERINTIS KEMERDEKAAN KAMPUS TAMALANREA KM.10 MAKASSAR 90245.  
Contact Person: dr. Agussalim Bukhari.,MMed,PhD,SpGK TELP. 081241850858, 0411 5780103, Fax : 0411-581431

**REKOMENDASI PERSETUJUAN ETIK**

Nomor : 362/UN4.6.4.5.31/PP36/2020

Tanggal: 13 Juli 2020

Dengan Ini Menyatakan bahwa Protokol dan Dokumen yang Berhubungan Dengan Protokol berikut ini telah mendapatkan Persetujuan Etik :

No Protokol	UH20010019	No Sponsor Protokol	
Peneliti Utama	<b>dr Yosylina Pramudya Wardhani</b>	Sponsor	
Judul Peneliti	Efektivitas Dan Keamanan Penggunaan Micropulse Transcleral Cyclophotocoagulation (mTSCPC) Pada Pasien Glaukoma di Makassar		
No Versi Protokol	<b>2</b>	Tanggal Versi	<b>8 Juli 2020</b>
No Versi PSP	<b>2</b>	Tanggal Versi	<b>8 Juli 2020</b>
Tempat Penelitian	<b>Klinik Mata Orbita Makassar</b>		
Jenis Review	<input type="checkbox"/> Exempted <input checked="" type="checkbox"/> Expedited <input type="checkbox"/> Fullboard	Masa Berlaku <b>13 Juli 2020</b> Sampai <b>13 Juli 2021</b>	Frekuensi review lanjutan
Ketua Komisi Etik Penelitian Kesehatan FK UH	Nama <b>Prof.Dr.dr.Suryani As'ad.,MSc,Sp.GK (K)</b>	Tanda tangan	Tanggal
Sekretaris Komisi Etik Penelitian Kesehatan FK UH	Nama <b>dr. Agussalim Bukhari,M.Med,PhD,Sp.GK (K)</b>	Tanda tangan	Tanggal

Kewajiban Peneliti Utama:

- Menyerahkan Amandemen Protokol untuk persetujuan sebelum di implementasikan
- Menyerahkan Laporan SAE ke Komisi Etik dalam 24 Jam dan dilengkapi dalam 7 hari dan Lapor SUSAR dalam 72 Jam setelah Peneliti Utama menerima laporan
- Menyerahkan Laporan Kemajuan (progress report) setiap 6 bulan untuk penelitian resiko tinggi dan setiap setahun untuk penelitian resiko rendah
- Menyerahkan laporan akhir setelah Penelitian berakhir
- Melaporkan penyimpangan dari protokol yang disetujui (protocol deviation / violation)
- Mematuhi semua peraturan yang ditentukan

No	JK	Umur	Tindakan	VOD	VOS	Diagnosis	TIO pre-1	durasi (ms)	power (mJ)	spot	pop sound	pain	Med (Pre)	HARI 1		HARI 7		1 BLN		2 BLN		3 BLN		Med (post)
														TIO	pain	TIO	pain	TIO	pain	TIO	Pain	TIO	pain	
1	F	55	OS TSCPC	20/80	HM	OS NVG ec PDR	10/30	2000	1500-1950	18	5	5/3	3	27	1	27	1	9	1	12	1	15	1	1
2	F	52	OS TSCPC	20/20	NLP	OS PACG	16/53	2000	1500-1600	23	5	5/3	3	60	2	13	1	9	1	15	1	13	1	1
3	M	51	OS TSCPC	HM	NLP	NVG ec PDR	16/49	2000	1500-2000	19	6	5/3	3	38	1	30	1	13	1	15	1	14	1	1
4	M	69	OS TSCPC	20/25	NLP	NVG ec CRAO	14/60	2000	1500-2400	23	6	5/3	3	52	2	44	2	32	1	21	1	22	1	1
5	F	59	OD TSCPC	HM	20/30	OD glaukoma sekunder	59/23	2000	1500-1600	24	3	5/3	3	12	1	20	2	12	1	12	1	15	1	1
6	M	58	OD TSCPC	LP	20/70	OD NVG	47/16	2000	1500-1300	20	3	6/4	3	6	2*	18	1	15	1	13	1	12	1	1
7	F	47	OS TSCPC	NLP	NLP	OS glaukoma sekunder	28/52	2000	1500-1350	25	5	7/4	3	49	1	26	1	30	1	24	1	23	1	1
8	F	68	OS TSCPC	NLP	NLP	OS POAG,pseudofakia	19/49	2000	1500-1600	27	3	9/5	3	50	2	35	1	28	1	24	1	15	1	1
9	M	58	OS TSCPC	20/20	NLP	OS NVG	14/60	2000	1500-1350	29	4	5/4	3	16	1	25	1	29	1	16	1	14	1	1
10	M	66	OS TSCPC	20/20	NLP	OS NVG ec crvo	22/60	2000	1500-2300	16	5	6/2	3	30	1	38	2	30	1	20	1	18	1	1
11	M	63	OD TSCPC	HM	20/50	OD NVG, CRVO	45/18	2000	1500-1900	20	5	5/3	3	40	3	58	1	35	1	45	1	27	1	1
12	M	77	OD TSCPC	LP	20/40	OD PACG	42/25	2000	1500-2300	28	6	4/6	3	38	4	22	1	25	1	29	1	25	1	1
13	M	65	OS TSCPC	1/60	NLP	OS PACG	56/67	2000	1500-1550	18	5	5/3	3	30	4	27	2	16	2	17	2	17	1	2
14	M	41	OS TSCPC	20/20	NLP	OS NVG ec PDR	17/46	2000	1500-1600	17	4	5/4	3	53	1	51	1	40	1	38	1	26	1	2
15	F	57	OD TSCPC	LP	20/80	OD POAG, pseudofakia	49/15	2000	1500-2400	18	8	6/4	3	40	1	40	1	33	1	28	1	27	1	2
16	F	30	OS TSCPC	1/60	NLP	OS glaukoma sekunder	14/30	2000	1250-1600	17	5	5/4	3	47	2	39	1	27	1	23	1	27	1	2
17	M	61	OS TSCPC	20/25	NLP	OS NVG ec PDR	14/49	2000	1500-1800	18	6	5/3	3	40	1	48	1	30	1	30	1	28	1	2
18	F	52	OS TSCPC	20/100	HM	OS NVG ec PDR	15/36	2000	1500-2000	16	3	4/8	3	32	3*	33	2*	29	1	30	1	29	1	2
19	F	55	OD TSCPC	NLP	20/80	OD NVG	48/18	2000	1500-2000	17	5	5/5	3	36	1	24	1	23	1	26	1	17	1	1
20	F	52	OD TSCPC	NLP	20/20	OD NVG, CRVO	56/19	2000	1500-1550	18	10	5/5	3	29	1	24	1	26	1	19	1	20	1	1
21	M	49	OS TSCPC	NLP	NLP	OS NVG ec PDR	52/57	2000	1500-1750	20	7	5/4	3	38	2	56	2	35	2	27	2	28	2	2
22	M	60	OD TSCPC	NLP	LP	OD NVG	50/13	2000	1500-1500	17	10	4/3	3	18	2	21	1	16	1	18	1	16	1	1
23	M	65	OS TSCPC	20/25	HM	OS NVG ec CRVO	14/54	2000	1500-1650	20	8	5/5	3	52	2	46	2	39	2	24	1	21	1	1
24	F	56	OS TSCPC	LP	LP	OS glaukoma sekunder	15/40	2000	1500-1700	22	6	3/2	2	35	1	32	1	24	1	23	1	19	1	1
25	F	62	OD TSCPC	LP	LP	OD sekunder ACG	56/13	2000	1500-1950	21	4	3/2	2	27	1	16	1	18	1	16	1	14	1	1

## Explore

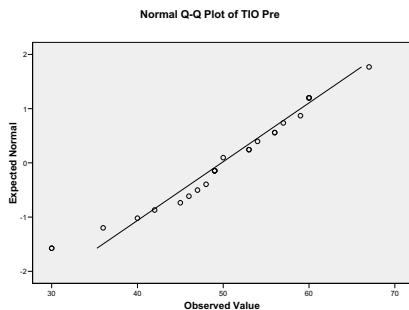
### Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
TIO Pre	,105	25	,200*	,956	25	,341
TIO Post	,147	25	,170	,903	25	,022

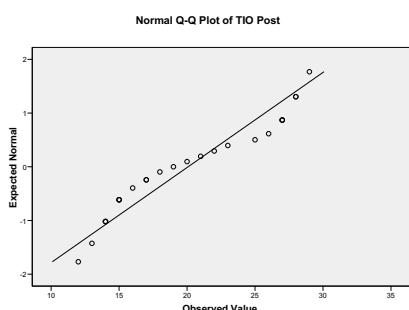
\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

### TIO Pre



### TIO Post



## Descriptive-Test

Descriptive Statistics

	Mean	Std. Deviation
TIO Pre	49,8000	9,22406
TIO Post	20,0800	5,64889

## NPar Tests

### Wilcoxon Signed Ranks Test

Ranks

	N	Mean Rank	Sum of Ranks
TIO Post - TIO Pre	25 <sup>a</sup>	13,00	325,00
Negative Ranks			
Positive Ranks	0 <sup>b</sup>	,00	,00
Ties	0 <sup>c</sup>		
Total	25		

a. TIO Post < TIO Pre

b. TIO Post > TIO Pre

c. TIO Post = TIO Pre

Test Statistics<sup>b</sup>

	TIO Post - TIO Pre
Z	-4,373 <sup>a</sup>
Asymp. Sig. (2-tailed)	,000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

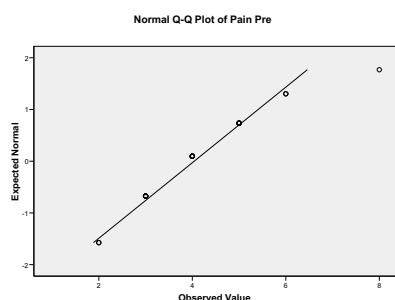
## Explore

Tests of Normality

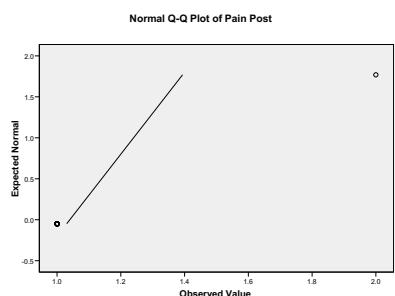
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pain Pre	,192	25	,019	,903	25	,021
Pain Post	,539	25	,000	,203	25	,000

a. Lilliefors Significance Correction

## Pain Pre



## Pain Post



## Descriptive-Test

Descriptive Statistics

	Mean	Std. Deviation
Pain Pre	4,04	1,369
Pain Post	1,04	,200

## NPar Tests

### Wilcoxon Signed Ranks Test

**Ranks**

		N	Mean Rank	Sum of Ranks
Pain Post - Pain Pre	Negative Ranks	25 <sup>a</sup>	13,00	325,00
	Positive Ranks	0 <sup>b</sup>	,00	,00
	Ties	0 <sup>c</sup>		
	Total	25		

- a. Pain Post < Pain Pre
- b. Pain Post > Pain Pre
- c. Pain Post = Pain Pre

**Test Statistics<sup>b</sup>**

	Pain Post - Pain Pre
Z	-4,408 <sup>a</sup>
Asymp. Sig. (2-tailed)	,000

- a. Based on positive ranks.
- b. Wilcoxon Signed Ranks Test

## Explore

Tests of Normality

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Medication Pre	,534	25	,000	,308	25	,000
Medication Pos	,449	25	,000	,565	25	,000

a. Lilliefors Significance Correction

## Descriptive-Test

Descriptive Statistics

	Mean	N	Std. Deviation
Medication Pre	2,92	25	,277
Medication Pos	1,28	25	,458

## Frequency Table

Medication Pre

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 2	2	8,0	8,0	8,0
3	23	92,0	92,0	100,0
Total	25	100,0	100,0	

Medication Pos

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 1	18	72,0	72,0	72,0
2	7	28,0	28,0	100,0
Total	25	100,0	100,0	

## NPar Tests

### Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
Medication Pos -	Negative Ranks	25 <sup>a</sup>	13,00	325,00
Medication Pre	Positive Ranks	0 <sup>b</sup>	,00	,00
	Ties	0 <sup>c</sup>		
	Total	25		

a. Medication Pos < Medication Pre

b. Medication Pos > Medication Pre

c. Medication Pos = Medication Pre

**Test Statistics<sup>b</sup>**

	Medication Pos - Medication Pre
Z	-4,540 <sup>a</sup>
Asymp. Sig. (2-tailed)	,000

a. Based on positive ranks.

b. Wilcoxon Signed Ranks Test

**Frequency Table****Jenis Kelamin**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Laki-laki	13	52,0	52,0	52,0
	Perempuan	12	48,0	48,0	100,0
	Total	25	100,0	100,0	

**Tindakan**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OD	9	36,0	36,0	36,0
	OS	16	64,0	64,0	100,0
	Total	25	100,0	100,0	

**Komplikasi**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Tidak ada	23	92,0	92,0	92,0
	Hyphema	2	8,0	8,0	100,0
	Total	25	100,0	100,0	

### Tekanan Darah

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Normal	6	24,0	24,0	24,0
	Elevated	4	16,0	16,0	40,0
	HT gr 1	7	28,0	28,0	68,0
	HT gr 2	8	32,0	32,0	100,0
	Total	25	100,0	100,0	

### Usia

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30 - 45 th	2	8,0	8,0	8,0
	46 - 60 th	14	56,0	56,0	64,0
	> 60 th	9	36,0	36,0	100,0
	Total	25	100,0	100,0	

### Diagnosis

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	NVG	15	60,0	60,0	60,0
	Glaukoma absolut	6	24,0	24,0	84,0
	Glaukoma sekunder	3	12,0	12,0	96,0
	PACG	1	4,0	4,0	100,0
	Total	25	100,0	100,0	

## Descriptive

### Statistics

#### Usia (th)

N	Valid	25
	Missing	0
Mean		57,1200
Median		58,0000
Mode		52,00
Std. Deviation		9,64935
Minimum		30,00
Maximum		77,00

## Komplikasi

Komplikasi	Frequency	Percent
Konjungtiva hiperemis	25	100,0
HypHEMA	2	8,0

## Descriptive

Variabel	Frequency	Percent
<b>Jenis Kelamin</b>		
Laki-laki	13	52,0
Perempuan	12	48,0
<b>Tekanan Darah</b>		
Normal	6	24,0
Elevated	4	16,0
HT gr 1	7	28,0
HT gr 2	8	32,0
<b>Tindakan</b>		
OD	9	36,0
OS	16	64,0
<b>Komplikasi</b>		
Tidak ada	23	92,0
HypHEMA	2	8,0
<b>Diagnosis</b>		
NVG	15	60,0
Glaukoma absolut	6	24,0
Glaukoma sekunder	3	12,0
PACG	1	4,0
Usia	$57,120 \pm 9,649$	
30 - 45 th	2	8,0
46 - 60 th	14	56,0
> 60 th	9	36,0

Uji Operator:

### T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	MA pembacaan 1	50,8214	28	9,41257	1,77881
	MA pembacaan 2	50,5714	28	9,48070	1,79168

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	MA pembacaan 1 & MA pembacaan 2	28	,945	,000

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)			
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference							
				Lower	Upper						
Pair 1	MA pembacaan 1 - MA pembacaan 2	,25000	3,12250	,59010	-,96078	1,46078	,424	,275			

### NPar Tests

#### Wilcoxon Signed Ranks Test

Ranks

		N	Mean Rank	Sum of Ranks
AT pembacaan 2 - AT pembacaan 1	Negative Ranks	2 <sup>a</sup>	2,00	4,00
	Positive Ranks	2 <sup>b</sup>	3,00	6,00
	Ties	0 <sup>c</sup>		
	Total	4		

a. AT pembacaan 2 < AT pembacaan 1

b. AT pembacaan 2 > AT pembacaan 1

c. AT pembacaan 2 = AT pembacaan 1

**Test Statistics<sup>b</sup>**

	AT pembacaan 2 - AT pembacaan 1
Z	-,378 <sup>a</sup>
Asymp. Sig. (2-tailed)	,705

a. Based on negative ranks.

b. Wilcoxon Signed Ranks Test